



UHASSELT

KNOWLEDGE IN ACTION

Faculteit Bedrijfseconomische Wetenschappen

master handelsingenieur

Masterthesis

To what extent does the 3T model differ for personal characteristics of workers in creative organizations in Limburg, Belgium?

Ruth Vanlangenaeker

Scriptie ingediend tot het behalen van de graad van master handelsingenieur, afstudeerrichting technologie in business

PROMOTOR :

Prof. dr. Dirk FRANCO

COPROMOTOR :

Prof. dr. Jean-Pierre SEGERS

COPROMOTOR :

Prof. dr. Janaina Macke



UHASSELT

KNOWLEDGE IN ACTION

www.uhasselt.be

Universiteit Hasselt
Campus Hasselt:
Martelarenlaan 42 | 3500 Hasselt
Campus Diepenbeek:
Agoralaan Gebouw D | 3590 Diepenbeek

2021
2022



Faculteit Bedrijfseconomische Wetenschappen

master handelsingenieur

Masterthesis

To what extent does the 3T model differ for personal characteristics of workers in creative organizations in Limburg, Belgium?

Ruth Vanlangenaeker

Scriptie ingediend tot het behalen van de graad van master handelsingenieur, afstudeerrichting technologie in business

PROMOTOR :

Prof. dr. Dirk FRANCO

COPROMOTOR :

Prof. dr. Jean-Pierre SEGERS

COPROMOTOR :

Prof. dr. Janaina Macke

Foreword

I could not have achieved writing this master thesis without the special help of some people. I want to thank my promotor Prof. dr. Dirk Franco and my copromotor Prof. dr. Jean-Pierre Segers for their help, time and ideas. The open communication, the very quick interaction and the space for finding my own interests and applying them in this study, are some of the things that have made this process far more productive.

Next, I also want to thank Prof. dr. Janaina Macke. She created the research design, developed the survey and was at any time available to discuss statistical or content-related matters. I am grateful I got the opportunity to cooperate on an international level for this thesis, and have experienced the energy that this international collaboration could add to this study. For this I also want to thank Prof. dr. Dirk Franco and Prof. dr. Jean-Pierre Segers for giving me this international opportunity.

In general, I would also like to thank my family, my boyfriend Wietse Lenaerts and my friends for their support. They kept motivating me in times where the end seemed far away. They calmed me down in moments of stress. They took the time to read my thesis, discuss some topics and give their advice. They were the ones behind the scenes, that were also my rocks when I needed it.

Abstract

Research design and methodology

Employee engagement could be identified as one of the drivers for organizational success, as it can enhance business performance (Bhuvanaiah, & Raya, 2014). At the same time, organizations have difficulties in finding people with the right skills.

Florida (2002) states that creativity is the decisive source for gaining a competitive advantage within the economy. The increasing phenomenon of the war for talent, in combination with the value of creativity for an economy, constitute the reason as to why this paper will further focus on creative occupations.

The aim of this paper was to test if, within this 'creative' population, differences in the perception of Florida's 3Ts (Talent, Tolerance and Technology) could be linked to parameters accounting for personal background and work context. Variables of job satisfaction, region satisfaction, total satisfaction and intrapreneurship were added.

Quantitative research measured the 3T model through a survey studying individual perceptions through 5-point Likert scales. The final sample of n=189 is constituted of a population of people working in Limburg in a selected incubator or Higher Education Institution (HEI). Differences between groups for the 3Ts, satisfaction and intrapreneurship were checked by running Anova and T-tests.

Findings

The paper started by reviewing relevant definitions and frameworks from existing literature. From this, two main conclusions follow. First, work creativity, innovation, diversity, (job) satisfaction and intrapreneurship are concepts that are extensively studied, and these domains will remain relevant for understanding the future of work. Second, none of these concepts has a general definition, all constructs are measured in multiple ways, uniformity is lacking. Third, a framework that broadens up the 3T model with other related concepts is lacking. Authors express different relationships for the same concepts such as links between innovation, creativity, entrepreneurship and organizational outcomes. A more inclusive framework would be useful.

Next, the quantitative research aimed to test to what extent the differences in scores on the 3Ts, satisfaction and intrapreneurship could be linked to differences between groups. Therefore, factor variables of the constructs were created for those with a sufficiently high construct validity. Talent, Tolerance and Technology, Satisfaction and Intrapreneurship served as dependent variables (DVs). The variables indicating personal characteristics and work context, are used as independent variables (IVs). These are variables linked to personal characteristics like gender, age, income level, but also

those related to the work context, like the size of the organization, workplace (incubator or HEI), professional activity...

After requirements for the statistical analysis were checked, Anova tests and T-tests, and their non-parametric variants for the dependent variables that were not normally distributed, were conducted. These tests provide insights into whether there are differences in scores on the dependent variables, that can be linked to the different groups identified in the independent variables.

The study confirms that differences in the 3T variables, satisfaction and intrapreneurship can be linked to differences in personal characteristics or work context. This was proven because the p-values of the Anova, T-test, Kolmogorov-Smirnov test and Kruskal Wallis test returned values lower than 0.05, by which the null hypothesis, that there was no difference amongst groups, could be rejected.

More specifically, the scores on Talent, Tolerance and Technology were found to differ for six different independent variables that were defined. Satisfaction with the job, region and total satisfaction as well as reported intrapreneurial capabilities and competences were also found to differ amongst groups.

First, results of technology are discussed. Scoring high on technology, implies that technological innovation at work is actively happening in the organization where one is working. Indicating a low score on Technology implies that one works in an organization where technological innovation is not implemented or investigated on a regular basis. Findings of this comparison show that reported technological innovation is higher for the Creative Professionals, compared to the Creative Core. This is counterintuitive, as following Florida's reasoning, one would expect that the Creative Core - the group of occupations with the highest level of creativity - works in organizations with the most extensive and innovative infrastructure.

Secondly, tolerance follows. Scoring high on tolerance in this study implies that one perceives they are tolerant towards diversity and confirms that one sees a diverse team as beneficial for performance. In this study, it was found that income levels impacted the scores on tolerance. More specifically, respondents earning more than 7500 monthly, reported to be more open to diversity than people earning less than 5000 monthly. These differences found based on income levels do not specifically confirm any statements found in existing literature.

The last T, Talent, is now discussed. Having a high score on the Talent factor variable, means that a respondent perceives he/she can utilize his/her creative talent in a successful way. It is a noticeable observation that the Talent variable differentiates the most of all 3Ts, as well as more than any satisfaction variable or intrapreneurship across the different IVs outlining the work context and the demographic variables

Looking into the IVs for which differences were found, gender, workplace, Creative Core versus Creative professional, type of worker and company size all accounted for differences in talent scores. Here a general link can be found: the respondents expressing to mostly use their talent are working in incubators, are entrepreneurs and working in organizations of 1-9 employees. This corresponds to the profile of one of my populations, namely the entrepreneurs working in micro-organizations, located in an incubator where the infrastructure for innovation and entrepreneurship is present. In those environments, conditions for using creative talent are optimal.

As for total, job or region satisfaction, the significant IVs were the type of worker, income levels and company size. In general, respondents working in micro-organizations (in incubators) were the most satisfied with their region and in total. Respondents working as entrepreneurs, were most satisfied in total, and with their job.

Lastly, intrapreneurship is discussed. High scores on intrapreneurship, indicate that the respondent has strong intrapreneurial competences and capabilities that are implemented in the work context. Implementing intrapreneurial competences at work differs based on the IVs age, income level, type of worker and size of the organization. It is the second most differentiated variable researched in this study, after Talent.

The variables creating differences in intrapreneur scores are age, income level, type of worker and size of the organization. Here, the most intrapreneurial competencies and capabilities were found with respondents older than 50 years, and subsequently with a salary of more than 7500 monthly. One explanation linking both of these findings, is that here the work experience, career path and seniority can change the mindset and viewpoint of working people.

Limitations and implications

In general, it can be said that choosing to do research on a specific subpopulation, has advantages and disadvantages. The advantage broadly proven in the results discussed above, are that this population can be examined into more detail, and a description of trends or links within this group can be made. A disadvantage is that comparison with people outside of the population, is not possible. One of the recommendations for future research is therefore that this research would be repeated for a population composed of people working in all of the classes, so also in the Working Class, Service Class and in agriculture. Next, the occupations that make up the division between the Creative Core and the Creative Professionals are in this study rather homogeneous. More specifically, the Creative Core within this study is mainly doing an educational occupation. It would be interesting to test if the same results would be found, when the Creative Core contained a wider range of occupations such as arts, physical architecture, media and entertainment occupations. The implications of this specific population lie in the fact that generalizations can only be made within the specific context of this research design, and only for the people working in the defined incubators and HEIs in Limburg.

Table of contents

1.	Introduction.....	1
2.	Literature review	3
2.1	Methodology.....	3
2.1.1	Exploration of the defined subject	3
2.1.2	Literature review	3
2.2	Definitions.....	3
2.2.1	Creativity.....	3
2.2.2	Innovation	4
2.2.3	No creative mind when in your job, you're not satisfied.....	6
2.2.4	Entrepreneurship	7
2.2.5	Intrapreneurship.....	8
2.2.6	Growth mindset.....	10
2.3	Frameworks	11
2.3.1	People	11
2.3.2	The role of cities	13
2.3.3	Development.....	15
3.	Methodology	17
3.1	Population	17
3.2	Introduction to the methodology	18
3.3	Data collection	18
3.3.1	Research framework.....	18
3.3.2	Survey setup.....	19
3.3.3	Distribution	21
3.4	Data preparation	22
3.4.1	Screening and cleaning.....	22
3.4.2	Preliminary analysis	24
3.5	Comparing groups.....	30
3.5.1	Normal distribution	33
3.5.2	Non-normal distribution	35
4.	Results.....	38
4.1	Parametric tests.....	38
4.1.1	Satisfaction Region	38

4.2	Non-parametric tests	39
4.2.1	Talent	39
4.2.2	Technology	40
4.2.3	Tolerance	40
4.2.4	Satisfaction Job	40
5.	Discussion	41
5.1	Findings	41
5.2	Limitations	45
5.3	Recommendations	45
6.	Conclusion	47
7.	References	50

1. Introduction

An organization can't operate without its employees. Employee engagement could be identified as one of the drivers for organizational success, as it can enhance business performance (Bhuvanaiah, & Raya, 2014). At the same time, organizations are confronted with the war for talent. This implies the climate for attracting and maintaining skilled individuals is becoming increasingly competitive.

Florida (2014) states that creativity is the decisive source for gaining a competitive advantage within the economy. Since creativity is not easy to identify, this paper follows Florida's approach to focus on creative occupations. The increasing difficulty of finding the right employees in combination with the value of creativity for an economy together constitute the reason as to why this paper will further focus on creative occupations.

There are numerous occupations, and Florida's (2014) classification is one way to structure these. Occupations are classified as belonging to the Agriculture, the Service Class, the Working Class and the Creative Class. This Creative Class is a selective group made up of occupations with a high level of creative thinking involved. This research focuses specifically on organizations where the highest expected percentages of these creative occupations can be found. Therefore, the population is formed by organizations located in incubators and higher education institutions (HEIs).

In the USA, people from the Creative Class attach great importance to the 3Ts: Talent, Technology and Tolerance (Florida, 2014). This is further applied in a European context, namely in Limburg, Belgium. However, the indicators measuring the 3Ts are adapted so that they express perceptions of individuals within the population. Intrapreneurial behavior and satisfaction with job and region are further added to the research because of their complementary value.

The purpose of this paper is to examine if, within the population, differences in results of the observations of the 3Ts, satisfaction and intrapreneurship can be found. This research continues to look for variables, related to personal characteristics and work context, that might explain these differences through statistical analysis such as the Anova and T-Test.

Findings indicate that in general, differences can be found for the variables of the 3Ts, satisfaction and intrapreneurship. Furthermore, the chosen independent variables can partially explain these differences. Lastly, it can be concluded that one of the 3Ts, the Talent one expresses to be able to utilize at work, seems to differentiate across the most different grouping variables. Intrapreneurial competences and capabilities seem to differentiate the most within the groups of the different grouping variables.

This research paper is structured as follows: first, a literature review is presented. In this literature review, relevant concepts and frameworks related to workplace creativity are introduced. Quantitative research follows. In this part, the first section describes the methodology. After, the results are discussed and finally the discussion is presented. Here, findings, limitations and

recommendations for future research are outlined. The paper is terminated with a conclusion discussing the key findings, relevance of the study and implications for future research and actions.

2. Literature review

2.1 Methodology

2.1.1 Exploration of the defined subject

The first step of any type of research involves the exploration of the research subject, namely creativity applied in the context of work and explored at the level of organizations as well as at the individuals working in the organization. Creativity is then positioned as one of the concepts within a broader context. This results in the identification of other concepts related or similar to workplace creativity, such as innovation, entrepreneurship, intrapreneurship, ... These are discussed in the literature review.

2.1.2 Literature review

The literature review is structured as follows: first, the relevant concepts are discussed. These concepts were either mentioned in the research description or identified as relevant in the previous step, during the exploration phase. Secondly, a synthesis of different frameworks is given. These frameworks are selected from a broad range of literature, frameworks and theories, based upon their relevance for this study and their prominence in the literature. These frameworks help to shape the context and better understand other relations and mechanisms that apply to the context of this study. Taking them into consideration also contributes to the objectivity and completeness of the contextual background since the frameworks provide various perspectives on the research subject.

From there, the paper will zoom in on one specific framework, the one that will be used for the purpose of this study: Richard Florida's Creative Class (2014). In brief, Florida (2014) states that when looking at successful cities, regions and metropolitans, workers in these regions can be characterized by a preference for diversity, openness and innovativeness.

2.2 Definitions

2.2.1 Creativity

The concept of creativity may be perceived as vague to many. Studies on creativity have contributed to a better understanding of it over the past decades. Nevertheless, several researchers have already pointed to discrepancies between the numerous definitions of creativity and the disagreements between scholars from different disciplines on the concept itself (e.g. Cropley, 1999). In doing so, the importance of creativity is increasingly being highlighted within various fields in the literature, but in doing so, creativity has no clear or unambiguous definition (Ferrari, Cachia, & Punie, 2009). Rather, the meaning stems from the different ways and contexts in which the term has been used and evoked throughout history. Moreover, the nature and definition of creativity vary across cultures (Starko, 2005) and appear to be value- and culture-specific (Craft, 2005).

Richard Florida (2014) builds on Webster's dictionary definition, which defines creativity as "the ability to create meaningful new forms". In doing so, two aspects recur that indicate the

requirements that must be met for something to be called creative. In other literature, too, these two characteristics are always cited as the starting point for delineating the concept: new and meaningful. Vandekerkhof and Beenders (2021) mention this in their book: on the one hand it must be new, one must look at something in an original, unique way and be able to offer a solution that did not exist before. On the other hand, it must be meaningful: it must be usable and be able to offer a (sur)value or solution.

Creativity is essential to the way we live and work today. Within the economy, according to Florida (2014), creativity is the decisive source for gaining a competitive advantage. It is recognized as the source from which new technologies, new industries, new wealth, and all other good economic things come. Often, however, creativity is erroneously reduced to the creation of new inventions, products, or businesses, although human creativity is not limited to technological innovation or new business models. Creativity should be seen as a process and concept, which is constantly and everywhere present in today's economy. In doing so, creativity is at the root of the original invention, but it also provides the continuous improvements in products or processes that ensure their continued existence (Florida, 2014).

Three different types of creativity can be distinguished according to Florida (2014): technological, economic and cultural creativity. These are all interrelated and can be enhanced through cross-fertilization and mutual simulation. According to Florida, an invention is the result of technological creativity and economic creativity leads to entrepreneurship.

Vandekerkhof and Beenders (2021) describe the relationship between creativity and entrepreneurship as being two-sided. The interaction of these is called entrepreneurial creativity, and it applies when a company applies the generation and implementation of new and valuable ideas, business models or strategies to create or further develop itself.

In order to view creativity as a key economic function within a region, it is important to substantiate how this system works and what different elements within that context will help determine the impact of creativity on the region's economic progress. In doing so, it is essential to emphasize the role of the environment, and by this is meant the social environment as well as the physical and geographical environment.

A good people environment leads to the attraction of talent and creative people. These provide the soil for the creation of a business climate that can compete. Ultimately, this in turn creates economic and regional growth (Florida, 2014).

2.2.2 Innovation

It is widely acknowledged that innovation is critical to creating value and maintaining a competitive advantage. It is a crucial topic in terms of policy and strategy. Its relevance for business success, however, was already recognized many years ago. For example, Schumpeter touched upon the

importance of process innovation for organizations (Baregheh, Rowley, & Sambrook, 2009; Schumpeter, 1934a; Schumpeter, 1934b).

Nowadays, businesses strive to capitalize on opportunities created by technology or changing marketplaces, structures, and dynamics. Change and innovation are intrinsically linked. Depending on the organization's resources, capabilities, strategies, and requirements, innovation may entail various sorts of change. To enable this, businesses must innovate in response to changing customer needs, preferences and lifestyles (Baregheh et al., 2009).

However, business organizations aren't the only ones who value innovation. The Department for Innovation, Universities and Skills in the United Kingdom (2008) discussed the broader implications of innovation in the face of globalization and environmental challenges, emphasizing the importance of all types of innovation in developing and maintaining competencies, as well as responding to environmental and demographic constraints (Baregheh et al., 2009).

As marketplaces have gotten more dynamic, interest in innovation, its methods, and management has grown. However, a uniform definition of innovation is lacking. Within different disciplines, a different focus lies on other attributes to describe the concept of innovation. The paper of Baregheh et al. (2009) focuses on creating a multi-disciplinary definition of innovation within business organizations and their environment.

Creating a multi-disciplinary definition of innovation is a complex task since there are many different types of innovation within organizations. More specifically, product, service, operation, process, and people innovation are all examples of organizational innovation. Next to this, also the nature, stages, social context of and means for innovation can all differ independently and simultaneously. After analyzing 60 definitions of different disciplines, Baregheh et al. (2009) identified the following multi-disciplinary definition of innovation: "Innovation is the multi-stage process whereby organizations transform ideas into new/improved products, service or processes, in order to advance, compete and differentiate themselves successfully in their marketplace" (Baregheh et al., 2009).

One of the research topics on innovation is its geographical distribution. Already in 1994, Feldman and Florida stated that innovation is strongly dependent on space. In particular, innovation is linked to a region's available infrastructure as well as in the support services offered and the presence of research and marketing activities in that region (Feldman & Florida, 1994).

Florida (2005, 2014) further elaborated this previous statement by proving that, compared to population and/or production activities, activities linked to innovation (either measured through patents or through scientific publications) are significantly denser and more clustered. Feldman and Kogler (2010) also did a comparative study with innovation and concluded that innovation is much more geographically concentrated compared to typical manufacturing or production activities.

Innovation differs greatly throughout space and is related to a region's underlying 'technology infrastructure,' which researchers described as the degree of local R&D activity, but also its support services and concentration of associated development and marketing activities.

2.2.3 No creative mind when in your job, you're not satisfied

Job satisfaction, it is a term that is being used frequently in work environments and by current society. However, similar to other concepts already described in this paper, research published by Soldo (2021) confirms that different authors have different ideas on what job satisfaction exactly is. The paradox lies in the fact that job satisfaction is a broadly studied phenomenon, but at the same time, there is little to no actual understanding of job satisfaction by the parties most involved, namely organizations (Soldo, 2021).

Different definitions of job satisfaction exist. Some of them can be expressed as a subjective assessment of how one feels about one's job (Soldo, 2021). For example, job satisfaction can be described as the match between an individual's expectation and the reality of the job. It is the "pleasurable or positive emotional state resulting from the appraisal of one's job and job experience" (Locke, 1976). Another definition of job satisfaction describes it as "how people feel about their jobs and different aspects of their jobs. It is the extent to which people like or dislike their jobs" (Spector, 1997).

As can be expected, job satisfaction is influenced by a lot of factors, which can be categorized as having either an internal or an external nature (Soldo, 2021). Some elements influencing job satisfaction will now be discussed.

Different types of discrimination might impact satisfaction at work negatively. Some of these are race-based or gender-based (Shaffer, Joplin, Bell, Lau, & Oguz, 2000; Valentine, Silver, & Twigg, 1999). Perceived discrimination might come from supervisors, coworkers and the organization itself and will decrease job satisfaction as well as commitment (Ensher, Grant-Vallone, & Donaldson, 2001).

A diverse work climate and a good team mix could be motivating to all members of a team, as it could empower organizational outcomes and job attitudes of majorities and minorities, including job satisfaction. However, for majorities, a good diversity climate might be perceived as a threat as it is not in line with their self-interest. They might perceive it as a benefit only to other groups - minorities. Thus, a diverse working climate might also decrease job satisfaction, organizational commitment and willingness to stay for majorities (Jagusztyn, 2010).

Job satisfaction might in turn have an impact on other aspects of work. The possible impact of job satisfaction on creativity and innovation will now be discussed.

Creativity is usually emphasized as a requirement for long-term organizational performance (Lumpkin & Dess, 2001). Two other important elements that have an impact on organizational outcomes are job satisfaction and organizational commitment (Cuhadar, 2008). The last two can be categorized as job attitudes. However, as Mishra and Shukla (2012) state, previous literature exploring the relationship between creativity and job satisfaction is still relatively limited.

Both creativity and job satisfaction are related to intrinsic motivation. More specifically, you can only be creative at work, when you are intrinsically motivated (Amabile, 1988). Intrinsic motivation is, in turn, related to job satisfaction (Oishi, Diener, Lucas, & Eunkook, 1999).

Some authors express a direct positive relation between job or work satisfaction and innovative activities at work. Nerkar, McGrath and Macmillan (1996) have proven that job satisfaction is positively related to innovative performance. Staw, Sutton and Pelled (1994) also examined this relationship and concluded more or less the same: satisfaction at work results in innovation.

2.2.4 Entrepreneurship

Entrepreneurship is another commonly used term that, like creativity and innovation, does not have a standardized or uniform definition. More specifically, Prince, Chapman and Cassey (2021) underline the problem of definitional diversity with regard to entrepreneurship. This means that existing definitions of entrepreneurship cover many different topics, reflecting the diverse opinions that exist both within and outside the entrepreneurship field. This comes with several disadvantages. One being, as Shane (2012) argues, that a lack of clarity surrounding the definition of entrepreneurship has hindered the field's progress in various ways. Education and research are two large domains in which this impact might be recognized; nevertheless, given the scope of entrepreneurship, Prince et al. (2021) recognize that the domains of impact are widespread and numerous.

Therefore, the goal of Prince et al. (2021) is to create definitional clarity concerning the concept of entrepreneurship. More specifically, they aim to create a new definition of entrepreneurship that seeks to be broader than before and encompasses the essential elements of entrepreneurship in the many contexts where it is practiced. They wanted to avoid examining literature from narrow conceptual views and therefore did not restrict the research to any specific journal or time frame. The only requirement was that the research had to be peer-reviewed.

This resulted in a definition of entrepreneurship as “the act of generating and developing an idea for validation”. They further split this definition into three parts. The first two concern idea generation and development. This emphasizes the importance of ideas in entrepreneurship. The person to realize these is an entrepreneur, who is also called the idea generator. Ideas are not passive outcomes or results. The realization of an idea can be described as a development process, an active process that includes formulating solutions or structuring a plan. The development process is a learning process. The third and last element of the definition is validation. This refers to the creation

of value for others. As a result of the development process, validation is the recognition of an idea's value (Prince et al., 2021).

Literature on the relation between entrepreneurship and creativity expresses different kinds of interactions and relationships between the two concepts. Florida (2012), for example, states that entrepreneurship can be seen as a type of creativity with a specific goal in mind, namely making profit or generating economic value. He therefore refers to entrepreneurship as economic creativity. Belitski and Desai (2015) indicate that entrepreneurship might be a moderator in the relationship between creativity and urban economic development. They refer to this as the creativity spillover of entrepreneurship. This works as follows: entrepreneurship, which is here interpreted as the formation of new businesses or organizations, can work as a knowledge funnel in an economy (Audretsch & Lehmann, 2005; Audretsch, Bönte, & Keilbach, 2008; Acs, Audretsch, Braunerhjelm, & Carlsson, 2009; Zahra & Wright, 2011), influencing economic development through directing resources like creativity. The creativity spillover, in this scenario, facilitates introducing new outcomes to the market, which are the result of creative ideas. Moreover, an entrepreneur (a third party) must bring creativity to the market to serve as a channel for the road from creativity to implementing and marketing new ideas (Belitski & Desai, 2015).

2.2.5 Intrapreneurship

Intrapreneurship can be characterized as a form of entrepreneurship within an organization. Pinchot (1985) defines intrapreneurship as the bottom-up initiative of individuals who effect change with the goal of improving their organizations. Intrapreneurs are also defined as initiators of new or improved projects, products, or processes (Zahra, Randerson, & Fayolle, 2013). Here the term can be linked to the concept of creativity, which is used by Florida (2014) as the ability to create meaningful new forms. Thus, the two concepts are close to each other, yet cannot be used mutually as synonyms. Whereas intrapreneurship is primarily about taking initiative to improve the organization, employee creativity within the organization is more likely to focus on creating something new and meaningful that improves or solves an existing problem.

Intrapreneurship - entrepreneurship within organizations - is a topic that is receiving a lot of attention last decades from managers in companies of various sizes. In the last two decades, intrapreneurship has been increasingly recognized as an important element in organizational development (Menzel, Aaltio, & Ulijn, 2007).

Different studies have stated that intrapreneurship boosts workplace optimism and enables people to better connect with their jobs. However, others suggest this relation is not valid because empirical evidence for this statement is lacking. Therefore, Pandey, Gupta and Hassan (2020) investigate the function of psychological capital (PsyCap) as a moderator in the relation between intrapreneurship and work engagement. They found that a positive relationship exists between intrapreneurship and work engagement, and that this relationship is mediated by PsyCap. This means that the effect of

intrapreneurship on work engagement is stronger when employees are psychologically capable. It would allow employees to devote their full commitment to their tasks (Pandey et al., 2020).

As Florida (2014) argues that creativity is key for companies to gain a competitive advantage, intrapreneurship is cited as being crucial for organizations to survive and maintain a competitive advantage (Ireland, Hitt, & Sirmon, 2003; Morris, Webb, & Franklin, 2011). More so, intrapreneurship is seen as a key driver of organizational success. This clearly demonstrates the role of the employee for the success of the company. More concretely, changes in the market or environment create new challenges for a company. In order to keep up with these, organizations are forced to look for new and creative ways to deal with the situation. This is where the strength of the employee comes in: they can observe what is happening from the front row. They receive input from customers, suppliers and competitors. In this case, an intrapreneur can help the company by identifying external changes and then providing solutions to that new challenge (Deprez, Leroy, & Euwema, 2018).

About the character of an intrapreneur, it is stated that they are stubborn, proactive, creative and seek challenges. They prefer a turbulent work environment over a stable one, and they like to go against the grain (Bateman & Crant, 1993). It can be concluded from this that every intrapreneur should always have a creative side. However, not every creative worker is an intrapreneur .

For the content and description of a job, there is much analogy between professions of the creative class and those of intrapreneurs. For example, Florida (2014) defined the creative class as a specific subset of people who are in an occupation that regularly requires them to make creative decisions. Not every occupation involves this, and some occupations are by their nature highly repetitive (often physical occupations). In these, creative and solution-oriented thinking is rarely, if ever, addressed. Also for intrapreneurs, there are certain professions in which they can show and use their abilities better than others. More specifically, intrapreneurship in occupations can be recognized by employees' ability to express ideas and take initiative, individually or in teams (Deprez et al., 2018).

Similar to the role of team leader for fostering creativity, the team leader can also foster intrapreneurial behavior. One of the elements a team leader can focus on is ensuring that sufficient time and resources are provided to enable intrapreneurial innovation (Deprez et al., 2018). This is necessary because innovation can be a lengthy process and implementing new innovations can take several years (McElheran, 2015). In addition, the innovation process can be very turbulent and also daunting (Greenhalgh, 2005).

In addition, team leaders can also enable innovation. Leaders can encourage initiatives from individual employees on the team. This could be an advantage, as there is a good chance that at least one employee within the team is interested in engaging in intrapreneurship. Specifically, the team leader facilitates the process of sharing ideas to further developing those ideas into products, projects or processes. Team leaders can encourage these individuals to share and develop their ideas. But this should not be the final step in the process. In fact, employees are curious about what

happens to their input and how their initiative can have a positive impact on the organization. When an employee knows that his/her idea is actually valued and has value, they are motivated to go even further the next time they have an idea. In ideal working conditions, intrapreneurs would be encouraged and given the opportunity to continue to actively work on their own ideas (Deprez et al., 2018).

2.2.6 Growth mindset

One of the elements that can trigger workplace creativity is a growth mindset. In her well-known research, Carol Dweck (2015) talks about how a different mindset can either let a person flourish or cause someone to limit themselves in their further development. The influence that a mindset can have on a person's abilities already starts from a young age - in childhood - and continues growing throughout one's educational and professional life. The core assumption that Dweck starts from is that the way in which people behave, perceive failure and deal with challenges during their life, is influenced and determined by one's mindset. Dweck mentions two contrasting mindsets: the growth mindset and the fixed mindset. A growth mindset is defined as "the idea that you can grow your abilities by believing that you can" whereas a fixed mindset can be described as "the idea that challenges are risky and require effort, and that setbacks are a sign of limited talent" (Dweck, 2015).

In various studies, Carol Dweck and her colleagues have shown that students will learn more, achieve deeper understanding and perform on a higher level when they believe that their personal intelligence may develop and grow. This can be explained by the fact that when students are adopting a growth mindset, looking intelligent is not one of their priorities. Instead, they will be open to taking on more complicated and challenging tasks, they will look at setbacks and failure as something that they can learn from and they will be more resilient (Dweck, 2015).

The implications of a mindset are very broad and, as stated before, go far beyond children or students. In fact, Dweck clearly states that everyone is capable of growing and changing, regardless of their age. Attitudes can always be shifted in the direction of growth. Teens and adults are also impacted by the social effects of their mindsets. Interaction with others can be stronger and rewarding when one thinks of others as also being able to grow and develop. Other effects of a growth mindset are that it can help prevent depression, it can lower the eagerness to be aggressive in situations, strengthen willpower and finally it may even help resolving long-term conflicts with rivals (Dweck, 2015).

It is especially important for employers to foster a growth mindset within their organization. More specifically, Dweck has come to the conclusion that not only individuals benefit from a growth mindset, but also larger groups. She states that similarly as with individuals, large groups such as employees within an organization can be driven and defined by their mindset (Dweck, 2015).

Dweck (2015) discovered that a mindset may have a big impact on employee perceptions and job happiness. People that have worked for organizations with a growth mindset claimed they felt more empowered and devoted to their jobs. They argued that their company valued innovation and

creativity far more than individuals who worked for organizations with a fixed mindset. Furthermore, they concluded that if they took a legitimate risk that did not pay off, they would still be supported by the organization. Employees in fixed mind-set firms, on the other hand, reported that their colleagues engage in more unethical behaviors such as holding secrets and collecting information in an attempt to appear as winners in the potential hierarchy (Dweck, 2015).

2.3 Frameworks

After defining some key topics, this literature review further continues with the discussion of frameworks clustered in three groups: people, the role of cities and development.

2.3.1 People

2.3.1.1 Creative class

Richard Florida (2014) created a new framework for categorizing human capital based on the concept of creativity in one's job. He divides all jobs in either the creative class, the working or service class or the agricultural sector. Furthermore, Florida stipulates that the creative class is the driving force behind economic development through innovation in (certain) cities in the United States. His assumptions and statements are now explained in more detail.

A member of the creative class practices a profession in which creative decisions can be made. The creative class can be distinguished from the other classes by the fact that they mainly get paid to perform creative activities. Members of the working class and service class are primarily paid to do repetitive, mostly physical work, while those in the creative class are paid to use their minds - the full range of their cognitive and social skills (Florida, 2014).

The creative class is further divided into two subcategories. These are formed based on the degree to which those occupations contain a creative factor. Specifically, there is the super-creative core on the one hand, and there are the creative professionals on the other (Florida, 2014).

The super creative core consists of the following professions: computer and mathematical professions, professions in architecture and engineering, professions in life sciences, physics and social sciences, professions in education and library work, professions in art, design, and finally professions in entertainment, sports and media. Their economic function is to create new ideas, new technology, and new creative content (Florida, 2014).

Around this core, the creative class also includes a broader group of creative professionals. Creative professionals consist of management professions, liberal professions in business and finance, legal professions, health care professions, technical professions, and professions in the sale of more

expensive goods or services. These people are engaged in solving complex problems that require independent judgment and high levels of education or human capital (Florida, 2014).

In addition to the creative class, there is also the working class, the service class and finally agriculture. The working class includes the following occupations: construction and mining occupations, installation, maintenance and repair occupations, manufacturing occupations, logistics, transportation and material moving occupations. The service class is made up of healthcare support occupations, food preparation and food preparation related occupations, cleaning and maintenance of buildings and grounds, personal care and service occupations, lower-level sales and related occupations, administrative support occupations, community and social services and security occupations. Finally, agriculture consists of farming, fishing, and forestry occupations (Florida, 2014).

Although the service class is currently the largest, the creative class has the most influence due to its crucial economic role. The creative class is dominant when looking at wealth and income: individuals with creative class occupations earn, on average, almost twice as much as members of the service class or working class. In addition, the creative class as a whole accounts for more than half of all wages and salaries (Florida, 2014).

It is also important to note that creativity in the working world is not limited to members of the creative class. Factory workers and even the lowest end of the service sector have always been creative in valuable ways. Also, the creative content of many blue-collar and service class jobs is increasing (Florida, 2014).

Florida (2014) has achieved great fame in the literature on human capital and economic development with his creative class. Yet, his work was also widely criticized. For example, some labeled the concept of the creative class as elitist, and Florida was accused of privileging this class over other classes. He was also derided as a "neoliberal" with a naively optimistic belief in the power of the market. Florida refutes these elements in the renewed edition of his book, namely "The creative class - Revised" (Florida, 2014).

Creativity is a multidimensional concept. Our commitment to creativity in all its dimensions constitutes the underlying spirit of our time. More than that, the creative class is the norm-setting class of our time (Florida, 2014). The norms of the creative class are different from those of the more traditional society. Individuality, self-expression and openness to differences are preferred to homogeneity, conformity and "belonging" that characterized the previous era of large-scale industry and organization (Florida, 2014).

The creative image covers elements from our work culture to our values and communities. It reshapes the way we see ourselves as economic and social actors and is at the core of our own identity. Creativity requires diversity because creativity cannot be bounded or constrained by categories such as gender, race, ethnicity, or sexual orientation (Florida, 2014).

2.3.2 The role of cities

2.3.2.1 Cities of tomorrow

In his book 'Cities of tomorrow', Peter Hall (2002) wondered what would ever bring urban economies back to growth after the developments of the last century. He claimed that new industries such as arts, culture and recreation, education and health care, and tourism could all contribute significantly (Hall, 2002).

The expectation was that high technology would be integrated in creative sectors, resulting in the creation of new industries: multimedia, novel combinations of education and entertainment, and virtual reality. This might all be largely facilitated by the complete digitization of information and the resulting convergence of previously different technologies, like broadcasting, computers and telecommunications, into one (Hall, 2002).

Back in that time, various researchers reasoned that the role and functionality of cities would disappear, since everything would become mobile. Everyone could perform activities in all places where a digital connection was present. Examples given were that traditional universities would be replaced with digital learning and that a surgeon, from anywhere in the world, would be able to perform a medical procedure on a patient living thousands of kilometers away. Some of these predictions were right and came forward more clearly in the light of Covid-19 when working and education from home became much more a standard practice (Hall, 2002).

However, Hall argues that at the time, empirical evidence, although limited, suggests that although new sectors and industries might develop all over the world, in the mid-1990s they were growing in specific places, namely traditional urban places like Los Angeles with for example Hollywood Movie Studios, San Francisco with Silicon Valley and also New York and London. This could be explained by the fact that like all creative activities, the emergence of new industrial activities relied on interaction, networking, and a certain level of excitement and energy, all of which were more likely to be found at such settings than anywhere else (Hall, 2002).

2.3.2.2 Creative cities, economies and incubators

It is by now a common fact in the socio-economic world that local and regional growth can be driven by a creative region (Segers, 2010). Richard Florida (2014) focusses a lot on the role a city can play in further economic development in the broader region. Firstly, on an individual level, the city or region where someone lives can be stimulating for their creativity. Florida argues that a hometown can be an environment where people can get impressions from and interact with, which in turn enhances their creative thinking.

Secondly, on a higher level, Florida states that the main driving force behind reshaping our geography is the creative class. More specifically, the creative class is facilitating the shift from remote areas to urban centers and nearby walkable suburbs. The creative class is a class that moves around a lot. Some cities and metropolitan areas have a substantially higher concentration than others. There is prosperity in areas where the creative class is prominently present. These locations may be identified via a new economic development model based on the three Ts: technology, talent, and tolerance. The most prosperous and successful metropolitan areas or cities thrive in all three aspects (Florida, 2014).

In his research, Segers (2010) describes C-Mine as a creative incubator. A creative incubator can be defined as “a place where the business sector, public sector, knowledge institutions, the creative industry and social sector all can work together to combine their innovative strengths”. Furthermore, one essential element is a strategic collaboration, whether it be a public-private one or not. For young entrepreneurs to be able to grow and integrate into the region and local economy, the creative incubator has to support the idea generation of these young talents (Segers, 2010).

C-Mine is located in Genk, Limburg, Belgium and is also labeled as a creative city. Both C-Mine as a creative incubator and Genk as a creative city are examples of places where businesses, local governments, and creative individuals are seeking sustainable alternatives and collaborative partnerships (Segers, 2010).

Etzkowitz (1996) mentions that the key to innovation in a knowledge-intensive region is his famous triple helix model. This will be discussed in more detail in one of the next chapters, but the fundamental argument is that it provides a model for collaboration between three partners (four in the quadruple helix model), namely knowledge institutions, companies and governments en ik denk ook CITIZENS

A creative incubator wants to broaden up this horizon and also facilitate open innovation and open-source activities. In this way, successful innovations can be accessible to others. The knowledge developed within the creative incubator can be shared and applied in other regions, cities or incubators. One of the requirements for a creative incubator to be successful is that new ways of cooperation are formed where transdisciplinary activities take place. Additionally, commitment to and passion for sustainable development and innovation should be one of the main drivers for every participant. Innovations get more successful when each partner is more committed to the topics. For this reason, a creative incubator can opt to focus on the cooperation of stakeholders from the direct environment (Segers, 2010).

A creative incubator has some specific tasks such as process management and support, making sure that the right partners are present to form a strong network, doing quality management, monitoring the different needs and interests of the different stakeholders within the community and attracting and selecting the top talent from a specific region (Segers, 2010).

2.3.3 Development

2.3.3.1 Sustainable Development Goals

In September 2015, the Sustainable Development Goals (SDGs) were formally introduced by the United Nations as the Agenda 2030 for Sustainable Development. From 2015 to 2030, 17 SDGs connected to 169 goals will establish an action plan to lift humanity out of poverty and bring the planet back towards a sustainable direction. The SDGs represent the three pillars of sustainable development: economic, social, and ecological.

From these 17 defined SDGs, five will now be discussed. As things like no poverty and gender equality are more universal concepts, this paper will focus on the elements specifically related to the work environment and linked to the subjects discussed in this paper. The first one relates to SDG 4. Quality Education - ensure inclusive and quality education for all and promote lifelong learning. One of the targets here is to increase the number of youth and adults with relevant skills, so they are prepared for employment, decent jobs and entrepreneurship (SDG 4.4). It is clear from this statement that employment and entrepreneurship are important drivers for (economic) development, and that proper education has to be the fundamental basis of this. Target 4.7 touches upon ensuring cultural diversity can be respected, which resonates with Florida's statements (2014) that regions need to be supporting a diverse climate since it attracts multicultural talent.

2.3.3.2 Entrepreneurial Ecosystems (EE)

Entrepreneurial ecosystems have lately developed as a prominent term in the policy and professional circles of entrepreneurship. They are particularly viewed as a regional economic development approach centered on establishing supportive settings that nurture creative start-ups. Spigel and Harrison (2017) mention that research to date on entrepreneurial ecosystems has been mostly typological and atheoretical, with little exploration of how they affect the entrepreneurship process. Therefore, the purpose of their paper is to analyze the relationships across ecosystems and certain other relevant academic sources and topics like clusters and regional innovation systems (Spigel & Harrison, 2017).

An ecosystem can be defined as "a conceptual umbrella for the benefits and resources produced by a cohesive, typically regional, community of entrepreneurs and their supporters that help new high-growth ventures form, survive, and expand". Although the concept of entrepreneurial ecosystems is not new, it has recently gained a lot more attention (Spigel & Harrison, 2017).

However, academic research on entrepreneurial ecosystems has fallen behind. As a consequence, there is only a fragmented understanding of the term with no or little systematic and structured empirical data and no theoretical foundations (Sayer, 1992).

Defining the required economic and social circumstances for a successful entrepreneurial environment is a common task and topic of interest in recent studies. While there is no single consensus on the definition or typology of ecosystems, Spigel and Harrison (2017) propose that although there is debate about the specific combination of factors that comprises an entrepreneurial environment, they may be generally classified as cultural, social, or material.

Presence of only one or two factors is insufficient to facilitate long-term entrepreneurial development. Strong cultural attitudes can minimize the uncertainties of entrepreneurship and foster business development, whereas unfavorable attitudes provide obstacles to quitting steady work in becoming an entrepreneur (Fritsch & Storey, 2014).

Material attributes include institutions and organizations which are based in a specific location and enable high-growth entrepreneurship. Institutions like research universities as well as other support organizations (e.g. incubators or accelerators), specialist enterprises that concentrate on start-up requirements, and a region's physical workplace infrastructure are examples of material attributes (Patton & Kenney, 2005).

As they establish and develop new enterprises, entrepreneurs must rely on resources such as risk financing, smart employees, and coaching from industry leaders. These materials are classified as "social" because they are predominantly accessible via social networks. Strong social networks within regions have long been regarded as a major characteristic of entrepreneurship and innovation since they facilitate the transmission of information about new possibilities, new technology, and the entrepreneurial process in general (Hoang & Antoncic, 2003).

3. Methodology

3.1 Population

The target group in this study is limited both by geographic region as well as by a specific target audience. Geographically, this research focuses on Limburg, Belgium. One of the requirements is that a respondent works within Limburg (although the respondent might live outside of Limburg). This was ensured in practice by solely targeting a specific audience of employees in Limburg.

This audience of working people can be divided into two higher level groups. First, Limburg incubators were targeted. A selection of the most relevant and vibrant Limburg incubators resulted in targeting the following four incubators: Corda Campus, BioVille, IncubaThor and C-Mine Crib. An incubator traditionally is centered around a specific theme, which is also the case for the chosen incubators. Corda Campus in Hasselt is an incubator created for the technology, high-tech ICT and media sectors. BioVille, located at the university campus of Hasselt in Diepenbeek, is fully dedicated to the health and care sector, with a lot of knowledge around e-health. IncubaThor, situated in the city of Genk, is focusing on smart energy, innovation and technology. C-mine Crib is also located in Genk and is centered around the creative economy, gaming and design. The second target group are knowledge institutions in Limburg. This group only consists of the three main institutions present in Limburg: Hasselt University, University College PXL and university college UCLL (campus Diepenbeek).

Within Hasselt University, the following research institutions were contacted:

- Biomedical Research Institute (BIOMED),
- Research Institute: Centre for Environmental Sciences (CMK),
- Institute for Materials Research (IMO),
- Transportation Research Institute (IMOB),
- Expertise Centre for Digital Media (EDM),
- Data Science Institute (DSI),
- Limburg Clinical Research Center (LCRC)

Within University College PXL, the research is divided into departments. Here the following departments were contacted:

- Business department,
- Digital department,
- Education department,
- Green & Tech department,
- Healthcare department,
- Mad school of arts,
- Media & tourism department,
- Music department,
- Social work department

3.2 Introduction to the methodology

For this paper, the book of Saunders and Lewis (2015) is used extensively as a guide for choosing, applying, and describing the methods and techniques implemented in this study.

When looking into the more abstract types of research, this study can be categorized as fundamental research. As with fundamental research, the high-level goal in this study is to gain knowledge for developing or expanding scientific theories and to expand knowledge about the effects of and relationships between the concepts previously discussed. This study cannot be labeled as applied research, as it is not trying to solve a problem in practice (Saunders & Lewis, 2015).

Fundamental research is most often carried out to obtain more knowledge of processes in business and management. Research of this type is known to result in statements about universal principles. In this study the purpose is also to test certain principles and see if they are applicable in this specific context and so to test their universality. Furthermore, the results of fundamental research have implications for and are important to the general society. This is also the case for this study because the results may be relevant for employees, employers, governments, cities, regions and other policymakers (Saunders & Lewis, 2015).

The paths through which this paper proceeds to obtain answers, also defined as the research methodology, is in this case quantitative research. More specifically, this will be research based on a deductive method. This implies that a certain theory or model is being tested. As the theory states, the starting point are the findings from the systematic literature review. In this study, the research design given by Prof. dr. Janaina Macke serves as a basis. When transformed into statements, propositions or hypotheses, the following step is to either accept or reject these statements based on quantitative data that is gathered and analyzed (Saunders & Lewis, 2015).

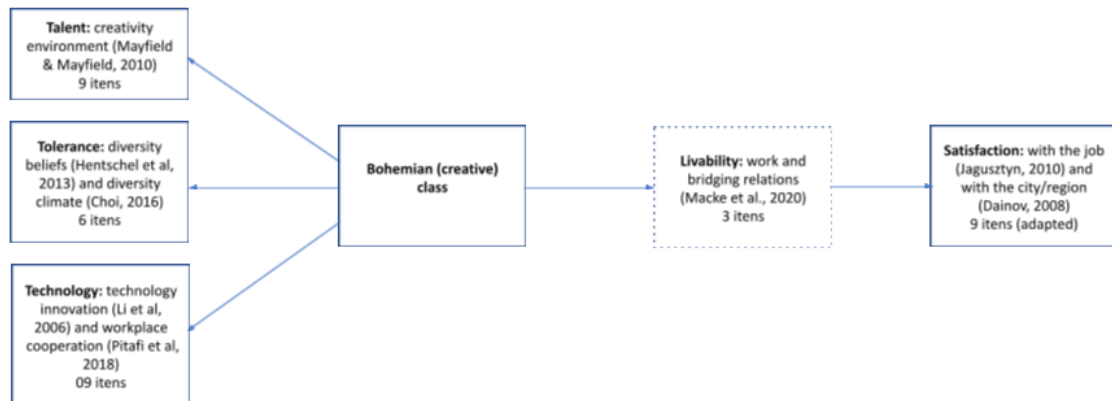
As a research method, survey research is performed. The instrument through which data is gathered is the replication of a questionnaire. Data is collected through a standardized questionnaire, which has the advantage of being easy to compare, both internally and externally. This is extra suitable in this situation since the results from this study will be compared to those of the same questionnaire retrieved by Prof. dr. Janaina Macke in Brazil. The translation of the survey along with the original English survey can be obtained upon request. Another advantage of a research build upon a standardized questionnaire is that the data can give a lot of insightful information and at the same time that findings are easy to both interpret and understand (Saunders & Lewis, 2015). For those reasons, a standardized questionnaire suits the purpose of this research.

3.3 Data collection

3.3.1 Research framework

The questions that were used in this survey stem from two different sources. For the most part, the questions were provided by Prof. dr. Janaina Macke. She designed a questionnaire that tested the 3T model (the 3Ts stand for Talent, Technology and Tolerance) through personal perceptions and added livability and satisfaction with the job and region. Furthermore, some demographic and

personal questions were included to be able to further describe the sample and understand trends and differences between groups. The questionnaire obtained from Prof. dr. Macke was designed upon the following scheme.



Research Framework Creativity survey

This scheme represents the 3T model with Talent, Tolerance and Technology. As stated before, the 3T model is based on Florida's 3Ts. The 3Ts are linked to the Bohemian (creative) class, indicating the possible links that Florida is suggesting regarding the occupational creativity and talent, technology and tolerance. The big difference, however, is that these are measured here through personal perceptions, not through macro-economic and demographic indicators on city-level. Next to that, Livability and Satisfaction are also shown in the scheme. These are added because they might be relevant since this research is studying perceptions of individual working people.

3.3.2 Survey setup

Since the questionnaire received was established in English, the questions and answers were all translated into Dutch. The questionnaire was expanded with questions regarding Intrapreneurial behavior. This topic was added because of the interest of the author and the link with work and creativity. Talent, Tolerance, Technology, Livability, Satisfaction and Intrapreneurial behavior are all constructs. This implies they cannot be observed or measured directly, but they are measured through the combination of different indicators. The number of indicators measuring the constructs are represented in the design as the number of items. The items are chosen based on their former uses in the literature as indicators for the constructs in this study. The full questionnaire can be received upon request.

The constructs and their corresponding items are now further discussed. The first construct is 'Talent' and is measured with nine items through creativity environment perceptions (Mayfield & Mayfield, 2010). The second construct, 'Tolerance' is questioned via 6 items concerning diversity beliefs (Hentschel, Shemla, Wegge, & Kearney, 2013) and perceptions on the diversity climate (Choi, 2016). 'Technology' forms the third construct and is composed of 9 items about perceptions on technology

innovation (Li, Zhao, & Liu (2006) and on cooperation in the workplace (Pitafi, Kanwal, Ali, Khan, & Wagas Ameen, 2018). A fourth construct is labeled as 'Livability' and consists of 3 items dealing with the perception of work and bridging relations (Macke, Sarate, & Moschen, 2022). 'Satisfaction' is measured through 9 items that handle questions about perceptions on job satisfaction (Jagusztyn, 2010) and satisfaction with the city or region (Dainov, 2008). Lastly, 'Intrapreneurial competences and capabilities' are measured through 9 items checking intrapreneurial behavior (de Jong, Parker, Wennekers, & Wu, 2015).

Besides these constructs, there are also questions about the personal backgrounds and characteristics. These questions were already included in the questionnaire by Prof. dr. Macke. The questions encompass the general demographic questions including gender, age, educational background, personal income, marital status and whether or not someone has kids. Next to that there are also some questions more specifically focussing on the work environment. These encompass the size of the organization, the description of their professional activity, and their type of work contract. Some of these questions were adapted to fit within the Belgian context, since the questionnaire was created to be conducted in a Brazilian context. The questions that fundamentally changed are the question regarding income levels and the question regarding educational background. Here the scales for the answers differed for Belgium compared to Brazil.

Hasselt University's ethical standards were also respected in this study and a consent was given by each respondent before any questions appeared. Here it was strictly monitored that the anonymity of each respondent was guaranteed. On top of this, it was also ensured that questions were formatted so that inclusiveness was insured, and no form of discrimination could be perceived. This was done, for example, by creating an option for all types of gender identity, as well as the option "I don't want to answer this".

Next, to be able to identify the population within the sample, two filter questions were added as the first two questions of the questionnaire. The first question involved whether or not the respondent worked in an incubator, and asked "The company where I work is located at" with the options being Corda INCubator, Bioville, IncubaThor, C-mine crib, and "None of the above" in Dutch. The second question involved whether or not the respondent worked in a higher education institution (HEI), and asked "I work for" where the answering options were UHasselt, PXL, UCLL and "None of the above" in Dutch. The same method was applied for choosing HEIs, as was applied for picking the Limburg Incubators that were to be targeted. More concrete, a selection of the HEIs in Limburg was targeted. These were chosen upon size, relevance and comparability with the sectors already included and covered by the incubator themes. Three HEIs that were targeted are, as mentioned above, Hasselt University, University College PXL and University College UCLL (campus Diepenbeek). The final questionnaire is included in the appendices, both in Dutch (translated and used) and in English (original).

3.3.3 Distribution

After the translation was done and the content was adjusted, the questionnaire was ready to be distributed. In this study, a digital questionnaire was developed using the software Qualtrics. The respondents were targeted through two main channels. On the one hand, companies located in the incubators were reached by their general email addresses and subsequently asked to further distribute the link to the questionnaire within their company. More specifically could the email address of each company be found on the website of that incubator. These email addresses were manually collected and organized in an excel spreadsheet, and grouped per incubator. After that, each group of incubator companies was separately emailed. All of the incubator companies were, however, contacted the same day to guarantee consistency. This resulted in contacting 214 companies located at Corda Campus in Hasselt, 20 companies from Bioville in Diepenbeek, 32 companies from IncubaThor in Genk and finally 41 companies from C-Mine Crib in Genk. The total number of incubator companies contacted sums up to 307 companies. However, the target audience was formed by every person working in one of these companies, but they could only be reached through the general email address of the company in the hope that this would further be distributed.

The second target population consists of HEIs. For this, Prof. dr. Franco and Prof. dr. Segers also helped with the distribution of the questionnaire within Hasselt University and University College PXL and University College UCLL. Hasselt University and University College PXL could be reached through their access to personnel email addresses or through the intranet of that institution. The targeted centers and departments of the three HEIs were further contacted by the author and Prof. dr. Franco and Prof. dr. Segers through using their personal professional networks.

Next to this, all information available was also used to increase the response rate. The same method was applied as with the incubators. For contact information that was available on the internet from departments or centers of the HEIs, the email addresses were collected, listed in Excel and finally each group was contacted separately.

For Hasselt University, the research institutions, centers and groups were targeted. A general email address was found through consulting the website of Hasselt University, and checking for each of the research institutions, centers and groups. This resulted in contacting Biomedical Research Institute (BIOMED), Research Institute: Centre for Environmental Sciences (CMK), Institute for Materials Research (IMO), Transportation Research Institute (IMOB), Expertise Centre for Digital Media (EDM), Data Science Institute (DSI) and lastly Limburg Clinical Research Center (LCRC).

This iterative process was repeated for all the departments in University College PXL. There, personal email addresses were found, organized in research members per department. For each of the departments, all institution members' email addresses received a personal email. The departments that were contacted were the Business department, Digital department, Education department, Green & Tech department, Healthcare department, Mad school of arts, Media & tourism department, Music department and the Social work department.

For University College UCLL, the present expertise centers are Sustainable resources, the Health Innovation expertise center, the Inclusive society expertise center, the Resilient people expertise center, the Education & development expertise center, the Digital solutions expertise center, the Smart organizations expertise center and the Art of teaching expertise center. However, different from the former two HEIs, here no contact information or email addresses could be found on the website of these expertise centers. Further attempts to reach University College UCLL ultimately did not yield the desired response rate. Therefore, University College UCLL will be discarded from this research. This means that it will not further be considered as one of the HEIs for the analysis and will not be integrated in the discussion. For this reason, only Hasselt University and University College PXL are addressed as the HEIs in next sections.

3.4 Data preparation

3.4.1 Screening and cleaning

3.4.1.1 Survey and analysis software

Hasselt University provides access to the Qualtrics Software for creating and conducting a survey and subsequently collecting data. The survey was therefore entered into Qualtrics. A consent form linked to Hasselt University's ethical standards was added upon starting with the actual questions. This paragraph contained the information that participation in the survey was completely voluntary. Next, it stated that respondents had the right to interrupt or cancel their participation in the study at any time without the need to further elaborate on a reason. Furthermore, it contained information on the confidentiality of the data that was to be collected and assured full anonymity. Lastly, respondents had to agree to this form, also confirming that they are 18 years or older, and are currently working as an employee, a professional or an entrepreneur.

Concerning the actual questions related to the content of the study, the chronological order of the construct variables and demographic questions from the original questionnaire was reproduced within this questionnaire. In general, first the 3T model was questioned, afterwards questions related to satisfaction were stated, and the questionnaire was finished with the demographic questions. As the questionnaire in this study was extended slightly, some questions were added.

The order of the constructs, as well as the answering options within each question were replicated from the original survey and can be obtained upon request. This guarantees that results might be compared in the future without any need for adaptation or data transformation.

After the survey was entered into Qualtrics, and thoroughly tested, a link was created for the questionnaire to be completed digitally. The survey could be completed during a period of 2,5 months. There were multiple reminders that underline the thoroughness in which this study was conducted. Once the survey was closed, the processing and analysis of the data could start. Qualtrics was used to complete the survey. Because of this, all the data that resulted from this standardized

questionnaire was also available in Qualtrics. Since Qualtrics is mainly used for data collection, the analysis of the data is done using another software programme.

SPSS was chosen as the software to further run all the tests and analyzes of the data. Qualtrics provides different options with regard to export formats. In this study, the data was exported into an Excel dataset. Next, this file was imported into SPSS. After entering the data into SPSS, the variables were labeled and coded. In general, as most of the variables were 5-Point Likers scales, 1 corresponds to totally disagree, and 2 corresponds to totally agree. An overview of the labels and codes can be requested.

3.4.1.2 Data cleaning

One thing that is very important before starting to interpret the data, is checking whether there are errors or invalid observations, and correcting or eliminating them. After the import of the data into SPSS, the size of the sample was 217.

The first change to the dataset is that some observations have been deleted. Three different types of subsamples were identified that are not taken into account in this study. The first group consists of three observations that were irrelevant. These were the first 3 in the dataset, and were still from testing the questionnaire, not from actual respondents. Therefore, the number of observations was reduced from 217 to 214.

Secondly, our target group was identified through two separate questions, asking in which incubator (or none), and in which HEI (or none) they were working. Since this was our selected population, respondents that indicated that they neither worked in any of the incubators, nor in one of the higher education institutions, were identified and filtered. This resulted in 22 respondents that did not fit in any of the two subpopulations. They are therefore considered invalid and not taken into account. The sample then consists of 192 respondents.

Since we are dealing with a stratified sample, meaning we have two different subsamples (incubators and HEIs), one of the rules of thumb is that no respondent can be in more than one group. Therefore, and for the sake of simplicity of further analyses, 3 respondents that indicated working in one of the incubators, as well as in one of the HEIs, were deleted. This might have not been necessary but deleting only these three extra respondents did not give further problems with analyzing the groups so it was acceptable.

3.4.2 Preliminary analysis

3.4.2.1 Factoring

To check whether each construct in our questionnaire could be represented by the items given, Cronbach's Alpha was calculated. An actual factorial analysis was not necessary, since this study relies on previous literature that already proved the validity of the items measuring the constructs.

Cronbach's Alpha measures the reliability of each construct. Therefore, it is calculated for the items of Talent, Technology, Tolerance, Satisfaction Job, Satisfaction Region, Satisfaction Total and Intrapreneurship. Literature on the values of Cronbach's Alpha is unambiguous as to which value it minimally has to be. However, the higher Cronbach's Alpha, the better. In this study, values of 0.6 or higher are considered acceptably good. This means that items having a Cronbach's Alpha of minimum 0.6, are in this study considered a good indicator for the construct they are measuring. In table below the constructs, the number of items that contribute to this construct and the value of the Cronbach's Alpha are shown.

Construct	Number of items	Cronbach's Alpha (≥ 0.6)
Talent	9	0.799
Technology	9	0.857
Tolerance	Different models 1) 6	Different alpha's 0.581* If Item 6 deleted =0.59 → Delete Item 6
	1) 5 (1-5)	0.59** If Item 4 is deleted: 0.612 → Delete Item 4
	2) 4 (1,2,3,5)	0.612*** If Item 5 deleted: 0.736 → Delete Item 5
	3) 3 (1,2,3)	0.736
Satisfaction job	3	0.782
Satisfaction region	9	0.681

		If deleted < 0.681 → No items deleted
Satisfaction total	12 (9+3)	0.719
Livability	3	0.468 < 0.6 This factor will not be used
Intrapreneurship	9	0.844
Tolerance - Diversity Climate	3 (4-6)	0.551

Table - Testing Construct validity through Cronbach's Alpha

Cronbach's Alpha are greater than 0.6 for Talent, Technology, Satisfaction job, Satisfaction Region, Satisfaction total and Intrapreneurship. These constructs are therefore valid. Since all the values are above 0.7, the Cronbach's Alpha for Satisfaction Region was also calculated for if any of its 9 items would be deleted. However, each item contributed positively to measuring the construct of Regional Satisfaction, which could be concluded since no Cronbach's Alpha of deleting any item yielded a better result.

Two of the constructs had a Cronbach's Alpha lower than 0.6 and were further examined. For Livability, the value of 0.468 indicated no construct validity of the three items, and therefore this construct will not further be used. The value was too low and deleting any of the three items would not result in a higher value.

Next, the Cronbach's Alpha of Tolerance yielded 0.581 with its 6 items. One of the possibilities can be checking whether deleting any of the items would yield a higher value. This was the case, and an iterative process was conducted deleting items 6 and 4. After that, the resulting items for Tolerance had a Cronbach's Alpha of 0.612, which technically falls within the accepted range. However, it was decided that deleting this last item would not only give a higher Cronbach's Alpha, but also could be justified looking at the content of the items. Item 5 was logically grouped with items 6 and 4 that had already been deleted. Items 4-6 measure HR/leadership capabilities with regard to the diversity climate within the organization, while items 1-3 measure the personal diversity beliefs of the respondent.

As the Tolerance items 4-6 represented diversity climate, it was also tested if they could separately form a factor. However, Tolerance 4-6 has not further been discussed in this paper, as Cronbach's Alpha of Tolerance items 4-6 yielded 0.551. This value is smaller than the minimum value of 0.6 and therefore rejected as a reliable factor of diversity climate.

After the construct validity is checked, factor variables can be calculated for each construct, based on the items that were accepted. In doing so, new variables are created, and calculated by the means of the items they represent. Seven factor variables were added to the dataset, namely the

factor of Talent, Technology, Tolerance (with items 1-3), Job Satisfaction, Region Satisfaction, Total Satisfaction and Intrapreneurship.

3.4.2.2 Grouping

The purpose of this study is to check whether perceptions on the 3Ts, intrapreneurial capabilities and competences and satisfaction can differ based on personal characteristics. Therefore, groups created by different demographic and work variables will be compared. One of the requirements of comparing groups is that the groups have to be substantially large to be able to generalize any statement. The minimum number of observations within a group must be 10, and this number is also used in the scope of this study, since it is dealing with a rather small sample. Not every subsample based on an individual answer to a question consisted of minimum 10 respondents, so some of the answering options were grouped together, and some were ignored, when no logical group could be formed, or the group was much smaller than 10.

How the new groups were formed, is now shown. First, the frequency tables for the demographic variables will be shown. These are gender, age, educational background, income, marital status and kids.

Gender

Gender	Frequency
Female	84
Male	103
Sytem missing (I don't want to answer)	2
Total	189

Age

Age group	Frequency
21-30	43
31-40	64
41-50	44
>50	38
Total	189

Educational background

Degree	Frequency
Under Bachelor	14 (1 + 7 + 6)
Bachelor	31
Master	91
PHD	53
Total	189

Income

Income level	Frequency
Up to 5000 (I don't pay myself any salary, minimum income and up to 5000)	102 (2 + 4 + 96)
5001-7500	50
>7500	7500
System missing (I don't want to answer)	27
Total	189

Marital status

Are you married?	Frequency
Not married (Single, divorced, widow)	59 (48 + 7 + 4)
Married	130
Total	189

Kids

Do you have kids?	Frequency
Yes	114

No	75
Total	189

Next, the frequency tables for the variables related to the work context will be shown. These are workplace, Incubator, HEI, Professional Activity, Creative Core versus Creative Professional, company size and type of worker.

Does the respondent work in an incubator, or in a Higher Education Institution? Here it is clear that the most represented group comes from a HEI, however 53 respondents work in an incubator.

Workplace: incubator versus HEI	Frequency
Working in an incubator	53
Working in a HEI	136
Total	189

Of the 189 respondents, 53 indicate they work in one of the selected incubators. They are represented here. One of the research decisions made here, was to take IncubaThor and C-Mine Crib together to form one group. This had to be done since they individually did not represent a minimum of 10 respondents. Taking these incubators together, however, can be justified as a logical decision. This is because each of them lies in Genk, and they are located on the same site.

Incubator	Frequency
None	136
Corde Campus	30
Bioville	11
IncubaThor + C-Mine Crib	12 (7 + 5)
Total	189

As the previous two tables indicate, 136 respondents work in a HEI. As University College UCLL was only represented by two respondents, these observations were dismissed. Conclusions on HEIs will only be about Hasselt University and University College PXL.

Higher Education Institution	Frequency
None (none + University College UCLL)	55 (53 + 2)
Hasselt University	72
University College PXL	62
Total	189

This grouping is made based on the answers of professional activity: Did the respondent choose one of the options belonging to the non-creative Class or Creative Class? The Creative Class was

comprised by the occupations from the Creative Core and the Creative Professionals, whereas the other possible options belong to the non-creative class. The group of others did not seem to find their occupation in the list presented, and therefore it is not clear what type of occupation they had. They are not further considered in the discussion of the results.

Professional activity	Frequency
Non-Creative Class (Agriculture, service sector, Industry sector)	10 (0 + 5 + 5)
Creative Class	155
System missing (Others)	24
Total	189

As shown in the table above, the Creative Class consists of 155 respondents. These can further be categorized in the Creative Core or Creative Professionals. The Creative Core works in the High-tech sector (sector of new technologies: AI) and/or in consultancy for this. The Creative Professionals have an occupation that matches the following list: architect, designer, engineer, programmer, scientist, researcher, analyst, professor, teacher, artist, writer, sportsman.

Creative Core or Creative Professional	Frequency
Creative Core	113
Creative Professionals	42
Others (Non-creative class + others)	34 (10 + 24)

The company size was also included in this survey. Here the indicators for sizes were based on the European standards. The biggest group represented comes from the large organizations of over 250 employees.

Company Size	Frequency
1-10 employees (Micro-organization)	30
11-49 (Small organization)	21
50-250 (Mid-sized organizations of 50-100 and 101-250 employees)	16 (10 + 6)
More than 250 (Large organization)	122
Total	189

The last parameter concerning work context, is the type of worker. This distribution is showed below. Since this paper only focusses on the first three, the category with others will further be ignored.

Type of worker	Frequency
Employee	108
Entrepreneur	27

Civil servant	46
Other (free profession)	8
Total	189

Now that all the groups were reformed, this paper continues to discuss further steps of analyzing differences of the variables of the 3Ts, satisfaction and intrapreneurship between these groups.

3.5 Comparing groups

After groups were formed and each category consisted of a minimum of 10 items, the main analysis of this study can be carried out. In this study, it is tested whether personal characteristics can be linked to different scores on the factor variables of Talent, Technology, Tolerance, Satisfaction (total, region and job) and Intrapreneurship. To do so, statistical analysis through T-Tests and Anova-tests are carried out. An independent samples T-Test is carried out if we want to compare only 2 groups, such as for example with the Gender variable: Female or Male. All variables with only two groups are:

- Gender
 - Male
 - Female
- Marital Status
 - Not married
 - Married
- Kids
 - Yes
 - No
- Work place
 - Incubator
 - HEI
- HEI
 - U Hasselt
 - PXL
- Professional Activity
 - Non-creative class
 - Creative class
- Creative Core or Creative Professionals
 - Creative Professionals
 - Creative Core

When a categorical variable consists of more than two groups, an Anova test is conducted. All variables with more than two groups are presented below with their categories being used when running the analysis.

- Age
 - 21-30 years old
 - 31-40 years old
 - 41-50 years old
 - Over 50 years old

- Educational background
 - Under bachelor
 - Bachelor
 - Master
 - PHD

- Monthly income
 - Up to 5000
 - 5001-7500
 - More than 7500

- Incubator
 - Corda Campus
 - BioVille
 - IncubaThor + C-Mine Crib

- Company Size
 - Micro-organizaiton (1-10 employees)
 - Small organization (11-49 employees)
 - Medium sized organizations (50-250 employees)
 - Large organizations (over 250 employees)

- Type of worker
 - Employee
 - Entrepreneur
 - Civil Servant

For these analyses, the factor variables will serve as dependent variables, and each of the demographic, categorical variables are used as independent variables. This is explained by the fact that the purpose is to test if values of the factor variables differ significantly for different groups within the sample, formed by our categories that were defined. The categories are in turn formed by the different answers that were given to the demographic questions. However, an Anova or T-

test requires the dependent variable to be normally distributed. This is firstly checked for all the factor variables.

Normal distribution of the dependent variables is checked by the Shapiro Wilk test. If this test has a significant p-value, this indicates that the variable is not normally distributed, since the zero hypothesis H_0 is that the variable is normally distributed. In table X, the results from this test are shown.

Dependent variable	Shapiro Wilk test (p>0,05)	Normally distributed?
Talent factor	<0,001	No
Technology factor	<0,001	No
Tolerance factor	<0,001	No
Satisfaction total factor	0,434	Yes
Satisfaction region factor	0,396	Yes
Satisfaction job factor	<0,001	No
Intrapreneurship factor	0,173	Yes

Table X

Based on these results, an Anova test or T-test can be carried out to compare groups for the following dependent factor variables: Total Satisfaction, Satisfaction with the Region and Intrapreneurship.

The dependent factor variables Talent, Technology, Tolerance and Satisfaction with the Job are not normally distributed and therefore not applicable for a parametric test such as the Anova or the T-Test. This is concluded since their p-values on the Shapiro Wilk test are significant, thereby rejecting the null hypothesis that the variable data is normally distributed. However, other tests are designed to conduct for non-normally distributed variables. These are non-parametric alternatives of the Anova and the T-test that do not depend on the distribution of the variable. For the Anova (>2 groups), the non-parametric variant chosen is the Kruskal-Wallis test. For the T-Test (2 groups), the non-parametric variant chosen is the Kolmogorov-Smirnov test. These tests are now further explained in the next sections.

3.5.1 Normal distribution

As stated in the methodology, the dependent variable must be normally distributed to run Anova and T-tests since these tests are dependent on the distribution of the variable. The dependent variables that are normally distributed, are Satisfaction with Region, Total Satisfaction and Intrapreneurship. For these, the corresponding T-tests (comparing only 2 groups), and Anova tests (comparing more than 2 groups) will now be shown.

3.5.1.1 T-test

A T-test is carried out when differences of two groups are tested for one dependent variable. More specifically, this is an independent 2-sample T-test. The null hypothesis of a T-tests states that no difference can be found amongst the tested groups for the dependent variable. If differences between groups are found, the p-value of this test has to be significant ($p < 0.05$). For values of $p > 0.05$, the null hypothesis cannot be rejected, which means no significant difference was found in the dependent variable linked to a difference in groups of the independent variable.

		INDEPENDENT VARIABLE		
		Difference between groups if $p < 0,05$		
DEPENDENT VARIABLE	Variabele	Satisfaction_Regio n	Satisfaction_Total	Intrapreneurship
	Gender	0,278	0,233	0,229
	Marital	0,160	0,190	0,123
	Kids	0,1	0,239	0,075
	HEI	0,853	0,906	0,200
	Workplace INC / HEI	0,954	0,703	0,644
	Professional Activity	0,967	0,462	0,077
	Creative Core or Professional	0,733	0,692	0,280

Results from this table show that no p-value is significant, as no value $p < 0.05$. This implies that Satisfaction with the Region, Total satisfaction and Intrapreneurship in this study do not differ for

gender, marital status, kids, the HEI, workplace, Professional activity and Creative core versus Creative Professionals.

3.5.1.2 Anova

An independent samples Anova is carried out when differences between more than two groups are tested for one dependent variable. The null hypothesis of an Anova test states that no difference can be found amongst the tested groups for the dependent variable. If differences between 2 or more groups are found, the p-value of this test has to be significant ($p < 0.05$). For values of $p > 0.05$, the null hypothesis cannot be rejected, which means no significant difference was found in the dependent variable linked to a difference in groups of the independent variable.

		INDEPENDENT VARIABLE		
		Differences between groups if $p < 0,05$		
DEPENDENT VARIABLE	Variabele	satisfaction_Region	Satisfaction_total	Intrapreneurship
	Incubator	0,251	0,384	0,853
	Age	0,818	0,770	0,013* Tests of homogeneity of variance (Levene's test) = 0,897 Post-hoc Test
	Education	0,332	0,580	0,910
	Income	0,098	0,049* 0,483 Post-hoc Test	<0,001* 0,718 Post-hoc Test
	Company Size	0,002* 0,347 Post-hoc Test	0,001* 0,372 Post-hoc Test	0,018* 0,722 Post-hoc Test
	Work (type worker)	0,186	0,013* 0,630 Post-hoc Test	<0,001* 0,406 Post-hoc Test

The significant p-values for the Anova test are marked (*). Once a significant p-value is found, further analysis is needed. This significant p-value indicates that there is a difference amongst 2 or

more groups, but based on this test, it is not clear which groups are significantly different, and which group scores higher.

Levene's test is also carried out. Levene's test checks the null hypothesis that the error variance of the dependent variable is equal across groups. Since it is preferred that there is no significant difference of the standard deviation of the groups, the p-value has to be above 0.05 as the null hypothesis is preferably not rejected. This statistic is an additional statistic and is only interpreted when a significant p-value for the Anova test is found.

3.5.2 Non-normal distribution

3.5.2.1 Kolmogorov-Smirnov tests

This test is the non-parametric variant of the T-test. As with the T-test, the null hypothesis of a Kolmogorov-Smirnov Test states that no difference can be found amongst the tested groups for the dependent variable. If differences between groups are found, the p-value of this test must be significant ($p < 0.05$). For values of $p > 0.05$, the null hypothesis cannot be rejected, which means no significant difference was found in the dependent variable linked to a difference in groups of the independent variable.

			INDEPENDENT VARIABLE			
			Differences between groups if $p < 0,05$			
	Variabele		Talent_Factor	Technology_factor	Tolerance123_Factor	Satisfaction_Job
	Gender	Kolmogorov-Smirnov	0,043*	0,817	0,952	0,647
		Mann Whitney U	0,010*	0,206	0,761	0,240
	Marital	Kolmogorov-Smirnov	0,298	0,168	0,999	0,434
		Mann Whitney U	0,12	0,051	0,568	0,205
	Kids	Kolmogorov-Smirnov	0,686	0,323	0,991	0,997
		Mann Whitney U	0,453	0,345	0,753	0,784

DEPENDENT VARIABLE	HEI	Kolmogorov-Smirnov	0,917	0,087	0,878	1
		Mann Whitney U	0,,776	0,173	0,933	0,953
	INC / HEI	Kolmogorov-Smirnov	0,023*	0,058	1	0,054
		Mann Whitney U	<0,001*	0,009	0,67	0,029
	Prof Act All	Kolmogorov-Smirnov	0,833	0,231	0,897	0,675
		Mann Whitney U	0,477	0,133	0,792	0,165
	Prof act CreativeClasses	Kolmogorov-Smirnov	0,008*	0,039*	0,775	0,235
		Mann Whitney U	0,001*	0,007*	0,43	0,057

The significant p-values for the Kolmogorov-smirnov and Mann Whitney U test are marked (*). In the table both the values of the Kolmogorov-Smirnov tests and the Mann Whitney U test are presented. It is chosen here to always do both tests, but the decisive one will always be the Kolmogorov-smirnov Test, since it has a stronger statistical power. This is because this test assumes that the dependent variable is continuous (interval or ratio level) → this is the case with my data, and therefore this test is going to be more appropriate. The Kruskal-Wallis has no assumptions about the dependent variable and is therefore again less powerful.

3.5.2.2 Kruskal-Wallis tests

The Kruskal-Wallis test is the non-parametric variant of the Anova test. The null hypothesis of Kruskal-Wallis test states that no difference can be found amongst the tested groups for the dependent variable. If differences between 2 or more groups are found, the p-value of this test has to be significant ($p < 0.05$). For values of $p > 0.05$, the null hypothesis cannot be rejected, which means no significant difference was found in the dependent variable linked to a difference in groups of the independent variable.

		INDEPENDENT VARIABLE
--	--	----------------------

		Differences between groups if p<0,05			
DEPENDENT VARIABLE	Variabele	Talent_Factor	Technology_factor	Tolerance123_Factor	Satisfaction_Job
	Incubator	0,610	0,485	0,802	0,997
	Age	0,134	0,112	0,230	0,135
	Education	0,709	0,375	0,735	0,958
	Income	0,132	0,783	0,033*	0,187
	Company Size	0,007*	0,104	0,957	0,065
	Work (type worker)	0,002*	0,196	0,052	<0,001*

4. Results

In this section, all significant results from the tests are discussed and interpreted.

4.1 Parametric tests

4.1.1 Satisfaction Region

- Company size
 - The respondents working in micro-organizations (1-10 employees) are more satisfied with their region than the respondents working in medium sized organizations (50-250 employees).
 - The respondents working in micro-organizations are more satisfied with their region than the respondents working in large organizations (>250 employees).

4.1.2 Satisfaction Total

- Company size
 - The respondents working in micro-organizations are more satisfied in total (with job + region) than the respondents working in medium sized organizations (50-250 employees).
 - The respondents working in micro-organizations are more satisfied in total (with job + region) than the respondents working in large organizations (>250 employees).
- Work
 - The entrepreneur is more satisfied in total (with job + region) than the employee.

4.1.3 Intrapreneurship

- Age
 - People from over 50 years old, report to have significantly more intrapreneurship competences and capabilities than people of 21 to 30 years old.
 - People from over 50 years old, report to have significantly more intrapreneurship competences and capabilities than people of 31 to 40 years old.
- Income
 - People earning >7500 report to have significantly more intrapreneurship competences and capabilities, than people earning up to 5000.
 - People earning >7500 report to have significantly more intrapreneurship competences and capabilities than people earning 5001-7500.

- Company size
 - The respondents working in micro-organizations (1-10 employees) report to have significantly more intrapreneurship competences and capabilities than those working in large organizations (>250 employees).

- Work
 - The entrepreneurs report to have significantly more intrapreneurship competences and capabilities than the employees.
 - The entrepreneurs report to have significantly more intrapreneurship competences and capabilities than the civil servants.

4.2 Non-parametric tests

4.2.1 Talent

- Gender
 - The males express they can significantly use their talent more at work, compared to females.

- Workplace: Incubator versus HEI
 - The respondents working in an incubator express they can significantly use their talent more at work, compared to respondents working in a Higher Education Institution

- Creative class: Core or Professional
 - The creative professionals express they can significantly use their talent more at work, compared to the creative core

- Type of worker
 - Tests indicate a significant difference when it comes down to the levels of talent that one estimates they can use at work, between different types of workers, namely between employees, or entrepreneurs.
 - The post-hoc test shows that the entrepreneurs express they can significantly use their talent more at work, compared to employees.

- Company size

- Tests indicate a significant difference when it comes down to the levels of talent that one estimates they can use at work, between different sizes of organizations, namely micro-organizations (1-10 employees), and large organizations (over 250 employees).
- The post-hoc test shows that the people who work in organizations from 1-10 people express to be able to use their talent significantly more, than people who work in large organizations of more than 250 employees.

4.2.2 Technology

- Creative class: Creative Core or Professional
 - Creative professionals express they can significantly use and technologies more at work, compared to the creative core

4.2.3 Tolerance

- Income
 - Tests indicate a significant difference in extent to which a respondent estimates that they are tolerant between income groups > 7500 euros monthly and up to 5000 monthly.
 - The post-hoc test shows that the tolerance that one expresses, is significantly higher for people who earn more than 7500 euros monthly, compared to respondents who earn up to 5000 euros monthly.

4.2.4 Satisfaction Job

- Work
 - Tests indicate a significant difference when it comes down to job satisfaction between different types of workers, namely between employees and entrepreneurs.
 - The post-hoc test shows that the entrepreneurs express they are significantly more satisfied with their job compared to employees.
- Income
 - People earning >7500 are more satisfied in total than people earning up to 5000

5. Discussion

5.1 Findings

In this study, the 3T model from Florida (2014) was used as a basis. Next to that, variables for job satisfaction, region satisfaction, total satisfaction and intrapreneurship were added. The population focused on two types of organizations where a high percentage of the Creative Class occupations were expected to be present. People who were working in organizations in Limburg located in incubators on the one hand, and in HEIs on the other hand were targeted. The aim of this study was to test if, within this 'creative' work context (i.e. organizations with occupations mainly situated within the Creative Class defined by Florida (2014)), differences could be found in one or more of the 3Ts (Talent, Technology and Tolerance), satisfaction and intrapreneurship for the personal characteristics and demographic variables tested.

Starting with the variables from the 3T model - Technology, Talent and Tolerance - remarkable statements can be made.

As the first of the 3Ts, **Technology** is discussed. Scoring high on technology, implies that technological innovation at work is actively happening in the organization where one is working. Indicating a low score on Technology implies that one works in an organization where technological innovation is not implemented or looked into on a regular basis.

To the best of my knowledge, no research has studied perceived differences of technological innovation at work and compared these for groups within the Creative Class. It is therefore in these findings, that the contribution of this study is explicitly proven. Since this study focuses mainly on respondents working in occupations belonging to the Creative Class, it is possible to compare groups within the Creative Class, namely the Creative Core and the Creative Professionals.

Findings of this comparison show that reported technological innovation is higher for the Creative Professionals, compared to the Creative Core. This is counterintuitive, as following Florida's reasoning, one would expect that the Creative Core works in organizations with the most extensive and innovative infrastructure. However, these findings indicate the opposite. The respondents within the Creative Professionals group in this study, report to work in organizations where more technological innovation takes place. One explanation for this result, is that the work environment is a more conclusive indicator than belonging to the Creative Core or Professionals. In more detail, the Creative Core in this study is mainly existing of people with an educational occupation, consequently working in one of the HEIs. This working environment is more stable and less innovative, than are the respondents working in Incubators, constituting the majority of the group of creative professionals. As organizations in incubators have good infrastructure and are often partially created around innovation, it can explain the higher score on technology.

However, it is difficult to make generalizations for this distinction within the Creative Class, as the group of occupations constituting the two groups are rather homogeneous. One recommendation for future research would be to test this, but with an equal number of respondents in the Creative Core and the Creative professionals, and with equal proportions of the different occupations within each group. This implies that only taking into account teachers or educational occupations might cause problems when generalizing statements for the whole Creative Core.

The second variable within the 3T model, is Tolerance.

In the literature, tolerance levels were found to be impacting job satisfaction differently, when comparing minority groups versus majority groups. In that research by Jagusztyn (2010), tolerance was measured as perceived diversity climate. As the diversity climate was not a significant factor, and as no variable checking for minority groups versus majority groups was included, this is an interesting future lead of investigation.

Scoring high on tolerance in this study implies that one perceives they are tolerant towards diversity and confirms that a diverse team is beneficial for performance. Scoring low on tolerance implies that one does not perceive diversity as a benefit to personal or professional development.

In this study, it was found that income levels impacted the scores on tolerance. More specifically, respondents earning more than 7500 monthly, reported to be more open to diversity than people earning less than 5000 monthly. These differences found based on income levels do not specifically confirm any general statements within relevant literature. One explanation for this result, might be that the number of observations within the group earning >7500 is rather small, and just equals the minimum (>7500 = 10). This might cause results to be less accurate, and therefore the interpretation of the results needs to be done carefully.

And lastly, Talent is discussed. First, it is a noticeable observation that the Talent variable differentiates the most of all three Ts, as well as more than any satisfaction variable or intrapreneurship across the different variables outlining the work context and the demographic variables. This is an important result, as it adds upon Florida's framework. Very simplified, people working within the Creative Class would ideally have to be in the most optimal environment and context to be able use their creative talent, as their occupation requires creativity on a regular to daily basis (Florida, 2014). However, when checking differences for groups, it becomes clear that this reasoning is far too simple, and a lot of other factors might influence the extent to which a respondent perceives they can use their creative talent (measured by score on factor Talent).

Having a high score on the Talent factor variable, means that a respondent perceives he/she can utilize his/her creative talent in a successful way. Scoring low on the Talent factor variable indicates that the extent to which a respondent can integrate and use his/her creative talent at work, is limited.

Looking into the variables for which differences were found, it can be concluded that natural distinctions such as gender create significant differences on Talent scores. Males perceive that, regardless of the context or place, they can always use their creative talent more than women. Although this is a striking result, the focus of this study does not lie in trying to explain gender differences. This, however, provides an interesting starting point for future research.

Different groups within the variables concerning the work environment and background do also account for differences in the Talent scores. More specifically, the workplace, belonging to Creative Professionals or Creative Core, type of worker, and the size of the organization all provide different Talent scores for different groups.

Here a general link can be found: the respondents expressing to mostly use their talent are working in incubators, being entrepreneurs and working in organizations of 1-9 employees. This corresponds to the profile of one of my populations, namely the entrepreneurs working in micro-organizations, located in an incubator where the infrastructure for innovation and entrepreneurship is present. In those environments, conditions for using creative talent are optimal.

However, looking back to Florida's Creative Class groups, he created a Creative Core, which is made up of people that use creativity within their job on a daily basis, and he created the group of Creative Professionals, who are people that also implement creative thinking oftenly, but on a less regular basis. From this perspective, one would expect that the Creative Core would score higher on Talent than the Creative Professionals, as the Creative Core are the ones that need to implement creative thinking into their job all the time. However, findings of this study indicate the opposite. The Creative Professionals perceive they can better use their creative talent in their job than the Creative Core. One explanation for these findings is that the occupations from the Creative Core and the Creative Professionals that are covered by respondents in my study are rather homogeneous. More specifically, the Creative Core in this research will mainly be formed of respondents with an educational background. As these respondents work in the HEIs, they work in a more stable work environment where creativity is less seen as a necessity to continue. At the same time, the respondents in this research belonging to the Creative Professionals, are all the ones not working in a HEI, thereby directly belonging to the Incubator group. This work environment is the opposite of the HEI environment, as it is much more empowering innovation and entrepreneurial behavior. Being creative might even be seen as a necessity for the organizations located in the incubators.

After reviewing the 3T model and offering possible explanations, the same will be done for satisfaction and intrapreneurship. As Satisfaction was measured on a Likert scale, it is obvious that high scores on each of the satisfaction variables corresponds to high levels of satisfaction.

With regard to Satisfaction with the Region, one variable from work background was found to be linked to differences in satisfaction. The one thing where regional satisfaction differed, was for differences in the size of the organization. Here, results indicated that satisfaction with the region

was significantly higher for respondents working in micro-organizations of 1-9 employees, compared to respondents working in large organizations of more than 250 employees. As micro-organizations in this population are organizations located in incubators, and large organizations in this study were found to only be HEIs, generalizations can be made on that level. One thing that could be concluded, is that the cities and regions creating these incubators, now get confirmation that what they are doing, results in positive outcomes. More specifically, the incubators are designed and established for attracting these start-ups and micro-businesses, and the people working there are most satisfied with the region they work in, compared to the people working in the HEIs, the large organizations. Also for total satisfaction, the micro-organizations score higher than the large organizations.

Satisfaction with the job and total satisfaction can be discussed together as the same variable causes, the type of worker one is, is linked to differences in satisfaction levels. Findings of this study show that entrepreneurs are more satisfied with their job and more satisfied in total, compared to regular employees. This result is in line with what was expected, as an entrepreneur has more freedom and autonomy to make own decisions, which in turn has a positive impact on satisfaction.

Literature on the moderating role of gender in the relation between role stressors and job satisfaction has found that women are more negatively influenced by job stressors than males, and therefore the negative effect it has on women's job satisfaction is bigger (Kim, Murrman, & Lee, 2009). This study tested if differences in gender could be linked to differences in satisfaction levels. However, the findings of this study cannot confirm these findings from the literature. This does not mean, however, that it can be concluded that this statement is not accurate. If the women as well as the men in this study do not experience high levels of job stress, then it can be expected that no difference is found in job satisfaction scores. However, since in this study role stressors were not taken into account, job stress can't be controlled for and therefore it can not be concluded if this statement holds. It is, however, a relevant research recommendation to study if, within the specific context of the creative Class, women are affected more by role stressors, and therefore have lower job satisfaction levels by testing the moderating effect of gender on the relation between job stressors and job satisfaction.

Lastly, the **variable of intrapreneurship** is discussed.

Here, high scores on the intrapreneurship variable, indicate that the respondent has strong intrapreneurial competences and capabilities that are implemented in the work context. Scoring lower on the intrapreneurship variable indicates that the respondent reports to display less intrapreneurial behavior at work.

It has to be noted here, that implementing intrapreneurial competences at work differs based on various defined variables, and is the second most differentiated variable researched in this study, after the Talent variable.

The variables creating differences in intrapreneur scores are age, income level, type of worker and size of the organization. Here, the most intrapreneurial competencies and capabilities were found with respondents older than 50 years, and subsequently with a salary of more than 7500 monthly. One explanation linking both of these findings, is that here the work experience, career path and seniority can change the mindset and viewpoint of working people. This implies that as people get older and have more work experience, they will climb higher on the ladder and earn more. At the same time, they learn to work independently, and they develop intrapreneurial behavior. However, this is only a suggested explanation, and research of the effects of age on intrapreneurship are definitely an interesting perspective as a starting point for future research.

The type of worker is also linked to differences in intrapreneurship scores. Here the results are in line with what would be expected: the entrepreneur scores significantly higher and reports highest intrapreneurial behavior, compared to both other groups, the employees and the civil servants.

5.2 Limitations

Through the discussion of the methodology, findings and conclusions, several limitations have been stated as they were discovered. The most important limitation recognized in this study is that sometimes small subsamples are present within groups, however minimum always respected.

As this study was limited by time and access to information, some of the subsamples are rather small. However, as this study compared differences between groups, a minimum of 10 respondents was always respected. However, this has an implication on the interpretation of results. There might be significant differences that can't be proven because of the small group size, and vice versa can significant findings in this study partially be caused by small samples, or big differences in the sizes of the groups that are compared.

5.3 Recommendations

Recommendations have also been stated during the discussion and conclusion of the paper, but some of them are outlined here.

As for the population and sample, repeating this study to a more heterogeneous population would be interesting. This enables the possibility to compare between the different classes proposed by Florida. Next, investigating a population of incubators and HEIs outside of Limburg, but within Belgium, would enable the comparison of the results to different provinces. This might be of interest to policy makers as they can evaluate the status of Incubators and HEIs in that province. However, Limburg's ecosystem of incubators is the most extensive so therefore, other recommendations might be more relevant.

Another recommended population would be to compare results between countries. The research design is already applied in Brazil, so comparison with these results can give thoughtful insights.

A repeated research within the same population would also bring relevant findings. That way, it can be checked if there are differences and trends for the Limburg incubators and HEIs. This brings up research questions as to is the population more creative, more tolerant, is there more technological innovation reported? Are respondents more or less satisfied with their job and region compared to x years ago? Are there differences and shifts in the results for the group comparisons? And are the entrepreneur scores different?

Lastly, also some statistical and analytical recommendations can be formulated. This concerns the possibilities for future testing that came up during the research. Since this study only took account for Anova tests, which only has one IV, a Manova, or multiple anova can be very relevant. This study showed that for the same DV, different IVs might cause differences in groups. This gives a direct start to testing how multiple IVs together would influence the DV. Secondly, also regression analysis could follow, one it is clear which IVs influence each of the DVs.

6. Conclusion

In this conclusion, first the main purpose and answer to the research question will be stated. Next, the key points of this thesis will be reviewed. Thirdly, the relevance of this research will be discussed. Finally, the paper will be concluded with the take-aways.

The aim of this paper was to test if, within the companies of the population, differences in the perception of the 3Ts (Talent, Tolerance and Technology) could be linked to parameters accounting for personal background and work context. Throughout this research, it became clear that indeed, factors related to demographic backgrounds or work context influenced scores on Talent, Tolerance or Technology. The scores on the factor Talent, measuring the perceived levels of creative talent that one can use at work, were found to be most different across different groups.

Now that the research question has been answered, the paper will review the key points of the complete thesis. This starts with the main conclusions on the literature review. Here it can be concluded that literature on work creativity, (job) satisfaction and intrapreneurship is growing in popularity, while at the same time these concepts have been researched for decades. One finding here is that for all of the concepts reviewed, one uniform definition and measurement or benchmark is missing. Authors give different interpretations to the concepts, and measure constructs like creativity and intrapreneurship through different parameters and scales. This is, however, not unusual since constructs cannot be measured directly so measures are created to estimate scores.

On top of this definitional ambiguity, the interactions and relationships between the researched concepts are unclear. Different authors, once again, report different types of relationships, and different causal relationships. Here, a more inclusive but broad framework including creativity, innovation, intrapreneurship, entrepreneurship, organizational outcomes and measures of satisfaction would be helpful.

After reviewing the literature, the paper discussed the quantitative research carried out. Here, the purpose was to test the 3T model through perceptions, and check if differences could be found related to groups with different personal characteristics or work backgrounds. By applying Florida's model of the 3Ts (2014) through individual perceptions, testing for contextual parameters that might influence these perceptions becomes possible.

For the 3Ts, no less than six different variables were found to generate significant differences across groups. Gender, the income level, the workplace (incubator versus HEI), the type of worker (entrepreneur versus employee), the size of the organization (micro-organizations versus large organizations) and belonging to the Creative Core or Creative Professionals all indicated significant differences between groups for scores on Talent, Tolerance or Technology. Based on Florida's statements (2014), this study showed counterintuitive results for the scores of Talent and Technology of respondents working in either the Creative Core, or the Creative Professionals. This requires further research as to what might cause the differences observed in this study.

After outlining the key points of the report, the conclusion will now discuss why this study and the corresponding results are relevant.

The 3T model has extensively been applied in different states of the USA, as it was researcher Richard Florida from the USA, who also developed this framework. However, there have been doubt as to which extent the model also applies within other continents and countries, like the European context. Different studies have been carried out, testing the 3T model in European countries. Results were not unanimous in confirming the applicability of the 3T model, some relations suggested by Florida could not be found or shown in European regions. It is therefore of major importance, that before generalizing this framework world wide, more studies replicate the model in different countries, and more knowledge is gathered around the model within the European context. This study contributes in this way to testing the model for Limburg, Belgium and expanding knowledge on the validation of the 3T model within Europe.

Next, this study goes further by measuring the 3T model through personal perceptions, which is another approach than the traditional measurements of the model suggested by Prof. dr. Janaina Macke. To the best of my knowledge, no other research has been published measuring the 3Ts through personal perceptions and beliefs. This facilitates checking for other contextual factors that might be influencing the levels of perceived Talent, Tolerance and Technology, thereby broadening the framework of Richard Florida with parameters checking work context and personal characteristics.

Checking these factors, differences in the levels of Talent, Tolerance and Technology are found for different groups based on personal characteristics or differences in work context. This confirms the value of the research in suggesting that work and personal characteristics might influence the 3T model as well. It opens the way to a whole new area of research testing how the personal and work environments can be linked to the 3T model and how these variables can be included in the framework proposed by Florida (2014). Future research is needed that builds upon the findings and sheds more light on the causes and relationships of the results found in this study.

The chosen population has provided useful insights and suggestions for future research. By focusing on organizations where high percentages of the Creative Class were expected to work, this study had the opportunity to thoroughly explore this population of the Creative Class in Limburg. This resulted in various surprising results and suggestions for future research. Since the ecosystem of incubators in Limburg, together with the HEIs situated in this province account for a significant portion of the 'creative' working population, these results can be further used to consider choices on policies and higher level decisions, and specifically decisions regarding incubators and HEIs.

To conclude this paper, these take-home messages are formulated. The first one is relevant to policy makers, as this paper confirms that Limburg is doing a good job in welcoming people working in micro-organizations in incubators. People working there report to be the most satisfied of all surveyed respondents, both with their job and their region. Next, Florida's model applied through perceptions indicates a lot of new possibilities for future research, and proves that the current 3T model is too narrow and does not account for elements such as demographic variables and work context. Lastly, more research into the Creative Class occupations within Belgium is recommended, since this group of people contribute a lot to innovation and to the economy, but still too little is known about their characteristics, perceptions and preferences.

7. References

Acs, Z. J., Audretsch, D. B., Braunerhjelm, P., & Carlsson, B. (2009). The knowledge spillover theory of entrepreneurship. *Small Business Economics*, 32, 15–30.

Amabile, T. M. (1988). A Model of Creativity and Innovation in Organisation. In B. M. Staw and L.L. Cumming (Eds.), (pp. 123 - 126). CT: JAI Press. Res. Org. Behav.

Audretsch, D. B., Bönte, W., & Keilbach, M. (2008). Entrepreneurship capital and its impact on knowledge diffusion and economic performance. *Journal of Business Venturing*, 23(6), 687–698. <https://doi.org/10.1016/j.jbusvent.2008.01.006>

Audretsch, D. B., & Lehmann, E. E. (2005). Does the Knowledge Spillover Theory of Entrepreneurship hold for regions? *Research Policy*, 34(8), 1191–1202. <https://doi.org/10.1016/j.respol.2005.03.012>.

Baregheh, A., Rowley, J., & Sambrook, S. (2009). Towards a multidisciplinary definition of innovation. *Management Decision*, 47(8), 1323–1339. <https://doi.org/10.1108/00251740910984578>

Bateman, T. S., & Crant, J. M. (1993). The proactive component of organizational behavior: A measure and correlates. *Journal of Organizational Behavior*, 14(2), 103–118.

Belitski, M., & Desai, S. (2015). Creativity, entrepreneurship and economic development: city-level evidence on creativity spillover of entrepreneurship. *The Journal of Technology Transfer*, 41(6), 1354–1376. <https://doi.org/10.1007/s10961-015-9446-3>

Bhuvanaiah, T., & Raya, R. P. (2014). Employee engagement: Key to organizational success. *SCMS Journal of Indian Management*, 11(4), 61-71. Retrieved from <https://www.proquest.com/scholarly-journals/employee-engagement-key-organizational-success/docview/1645135682/se-2?accountid=27889>

Choi, S. (2016). Workforce Diversity and Job Satisfaction of the Majority and the Minority. *Review of Public Personnel Administration*, 37(1), 84–107. <https://doi.org/10.1177/0734371x15623617>

Craft, A. (2005). *Creativity in schools: Tensions and dilemmas*. London: Routledge. doi:10.4324/9780203357965

Cropley, A. J. (1999). Creativity and cognition: *Producing effective novelty*. *Roeper Review*, 21(4), 253–260. <https://doi.org/10.1080/02783199909553972>

Cuhadar, M. T. (2008). The Sectoral Analyse of Role Conflict and Role Ambiguity with Job Satisfaction and Organisational Commitment: A Study in the East Mediterranean Region. *Journal of Global Strategic Management*, 04.

Dainov, E. (2008). The creative & knowledge class in Sofia. Understanding the attractiveness of the metropolitan region for creative knowledge workers. *ACRE report 5.10*, 8 (ISBN 978-90-75246-77-3).

de Jong, J.P.J., S.K. Parker, S. Wennekers & C.H. Wu (2015), Entrepreneurial behavior in organizations: Does job design matter?, *Entrepreneurship Theory & Practice*, 39(4), 981-995

Deprez, J., Leroy, H., & Euwema, M. (2018). Three chronological steps toward encouraging intrapreneurship: Lessons from the Wehkamp case. *Business Horizons*, 61(1), 135-145. <https://doi.org/10.1016/j.bushor.2017.09.013>

Dweck, C. S. (2015). The Remarkable Reach of Growth Mind-Sets. *Scientific American Mind*, 27(1), 36-41. <https://doi.org/10.1038/scientificamericanmind0116-36>

Ensher, E. A., Grant-Vallone, E. J., & Donaldson, S. I. (2001). Effects of perceived discrimination on job satisfaction, organizational commitment, organizational citizenship behavior, and grievances. *Human Resource Development Quarterly*, 12(1), 53-72.

Etzkowitz, H. (1996). The Triple Helix: Academic-Industry-Government Relations. *Annals of the New York Academy of Sciences*, 787 The Technology, 67-86. <https://doi.org/10.1111/j.1749-6632.1996.tb44849.x>

Feldman, M. P., & Florida, R. (1994). The geographic sources of innovation: Technological infrastructure and product innovation in the United States. *Annals of the Association of American Geographers*, 84(2), 210-229. doi:10.1111/j.1467-8306.1994.tb01735.x

Feldman, M. P., & Kogler, D. F. (2010). Stylized facts in the geogra-phy of innovation. *Handbook of the Economics of Innovation*, 1, 381-410. doi:10.1016/S0169-7218(10)01008-7.

Ferrari, A., Cachia, R., & Punie, Y. (2009). Innovation and Creativity in Education and Training in the EU Member States: Fostering Creative Learning and Supporting Innovative Teaching. JRC Technical Notes. Publication of the European Community. http://ftp.jrc.es/EURdoc/JRC52374_TN.pdf

Florida, R. (2005). The world is spiky. *Atlantic Monthly*, October, 48– 51.

Florida, R. (2014). *The Rise of the Creative Class--Revisited*. Adfo Books.

Fritsch, M., & Storey, D. J. (2014). Entrepreneurship in a regional context: Historical roots, recent developments and future challenges. *Regional Studies*, 48, 939–954.

Greenhalgh, T., Robert, G., Macfarlane, F., Bate, P., Kyriakidou, O., & Peacock, R. (2005). Storylines of research in diffusion of innovation: A meta-narrative approach to systematic review. *Social Science and Medicine*, 61(2), 417–430.

Hall, P. (2002). *Cities of Tomorrow*. Wiley.

Hentschel, T., Shemla, M., Wegge, J., & Kearney, E. (2013). Perceived Diversity and Team Functioning. *Small Group Research*, 44(1), 33–61. <https://doi.org/10.1177/1046496412470725>

Hoang, H., & Antoncic, B. (2003). Network-based research in entrepreneurship: A critical review. *Journal of Business Venturing*, 18, 165–187.

Ireland, R. D., Hitt, M. A., & Sirmon, D. G. (2003). A Model of Strategic Entrepreneurship: The Construct and its Dimensions. *Journal of Management*, 29(6), 963–989. https://doi.org/10.1016/s0149-2063_03_00086-2

Jaguszyn, N. E. (2010). Perceived Workplace Discrimination as a Mediator of the Relationship between Work Environment and Employee Outcomes: Does Minority Status Matter? Graduate Theses and Dissertations. Retrieved from <http://scholarcommons.usf.edu/etd/3657>

Kim, B. P., Murrmann, S. K. & Lee, G. (2009). Moderating Effects of Gender and Organisational Level between Role Stress and Job Satisfaction among Hotel Employees. *International Journal of Hospitality Management*, 28, pp. 612 - 619.

Li, Y., Zhao, Y., & Liu, Y. (2006). The relationship between HRM, technology innovation and performance in China. *International Journal of Manpower*, 27(7), 679–697. <https://doi.org/10.1108/01437720610708284>

Locke, E. A. (1976). The Nature and Causes of Job Satisfaction. In M. D. Dunnette (Ed.). *Handbook of Industrial and Organisational Psychology*. Chicago: Rand McNally.

Lumpkin, G. T. & Dess, G. G. (2001). Linking Two Dimensions of Entrepreneurial Orientation to Firm Performance: The Moderating Role of Environment and Industry Life Cycle. *Journal of Business Venturing*, September, 16(5), pp. 429 - 451.

Macke, J., Sarate, J. A. R., & Moschen, S. D. A. (2022). Livability Dimensions and Sense of Community in a Developing Country. *International Journal of Social Ecology and Sustainable Development*, 13(1), 1-13. <https://doi.org/10.4018/ijsesd.293238>

Mayfield, M., & Mayfield, J. (2010). Developing a Scale to Measure the Creative Environment Perceptions: A Questionnaire for Investigating Garden Variety Creativity. *Creativity Research Journal*, 22(2), 162-169. <https://doi.org/10.1080/10400419.2010.481511>

McElheran, K. (2015). Do market leaders lead in business process innovation? The case(s) of e-business adoption. *Management Science*, 61(6), 1197-1216.

Menzel, H. C., Aaltio, I., & Ulijn, J. M. (2007). On the way to creativity: Engineers as intrapreneurs in organizations. *Technovation*, 27(12), 732-743. <https://doi.org/10.1016/j.technovation.2007.05.004>

Mishra, R., & Shukla, A. (2012). Impact of creativity on role stressors, job satisfaction and organisational commitment. *Journal of Organisation and Human Behaviour*, 1(3), 18-26. Retrieved from <https://www.proquest.com/scholarly-journals/impact-creativity-on-role-stressors-job/docview/1478026319/se-2?accountid=27889>

Morris, M. H., Webb, J. W., & Franklin, R. J. (2011). Understanding the Manifestation of Entrepreneurial Orientation in the Nonprofit Context. *Entrepreneurship Theory and Practice*, 35(5), 947-971. <https://doi.org/10.1111/j.1540-6520.2011.00453.x>

Nerkar, A. A., McGrath, R. G. & Macmillan, I. C. (1996). Three Facets of Satisfaction and Their Influence on the Performance of Innovation Team. *Jr. Bus. Venturing*, 11, pp. 167 - 188.

Oishi, S., Diener, E., Lucas, R. & Eunkook, S. (1999). Cross Cultural Variations in Predictors of Life Satisfaction: Perspectives from Needs and Values. *Pers. Soc. Psychol. Bull.*, 25, pp. 980 - 990.

Pandey, J., Gupta, M., & Hassan, Y. (2020). Intrapreneurship to engage employees: role of psychological capital. *Management Decision*, ahead-of(ahead-of-print). <https://doi.org/10.1108/md-06-2019-0825>.

Patton, D., & Kenney, M. (2005). The spatial configuration of the entrepreneurial support network for the semiconductor industry. *R&D Management*, 35(1), 17.

Pinchot, G. (1985). *Intrapreneuring: Why you don't have to leave the corporation to become an entrepreneur*. New York, NY: Harper & Row.

Pitafi, A. H., Kanwal, S., Ali, A., Khan, A. N., & Waqas Ameen, M. (2018). Moderating roles of IT competency and work cooperation on employee work performance in an ESM environment. *Technology in Society*, 55, 199–208. <https://doi.org/10.1016/j.techsoc.2018.08.002>

Prince, S., Chapman, S., & Cassey, P. (2021). The definition of entrepreneurship: is it less complex than we think? *International Journal of Entrepreneurial Behavior & Research*, 27(9), 26–47. <https://doi.org/10.1108/ijeb-11-2019-0634>

Saunders, M., & Lewis, P. (2015). *Methoden en technieken van onderzoek*, 7e editie met MyLab NL toegangscodes (7de editie). Pearson Benelux B.V.

Sayer, A. (1992). *Method in social science: A realist approach*. Abingdon, U.K.: Routledge.

Schumpeter, J. (1934a). *Capitalism, socialism, and democracy*. London: Allen & Unwin.

Schumpeter, J. (1934b). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle*. Cambridge, MA: Harvard University Press.

Segers, J. P. (2010). Creatieve Economie - Creatieve Stad - Creatieve Incubator. In *Putten uit innovatie - Creativiteit en innovatie als hefboom voor lokale groei* (pp. 31–41). Vandenbroele.

Shaffer, M. A., Joplin, J. R. W., Bell, M. P., Lau, T., & Oguz, C. (2000). Gender discrimination and job-related outcomes: A cross-cultural comparison of working women in the United States and China. *Journal of Vocational Behavior*, 57(3), 395–427.

Shane, S. (2012). Reflections on the 2010 AMR Decade Award: Delivering on the Promise of Entrepreneurship As a Field of Research. *Academy of Management Review*, 37(1), 10–20. <https://doi.org/10.5465/amr.2011.0078>

Soldo, S. (2021). *Definitions And Measures Of Workplace Learning And Job Satisfaction In The Context Of Industry 4.0*. Dubrovnik: University of Dubrovnik. doi:<https://doi.org/10.17818/DIEM/2021/1.20>

Spector, P. E. (1997). *Job satisfaction : Application, assessment, causes, and consequences*. SAGE Publications.

Spigel, B., & Harrison, R. (2017). Toward a process theory of entrepreneurial ecosystems. *Strategic Entrepreneurship Journal*, 12(1), 151–168. <https://doi.org/10.1002/sej.1268>

Starko, A. J. (2005). Creativity in the classroom: schools of curious delight. *Choice Reviews Online*, 3rd edition (Lawrence Erlbaum Associates Publishers), 32–5204. <https://doi.org/10.5860/choice.32-5204>

Staw, B. M., Sutton, R. I. & Pelled, L. H. (1994). Employee Positive Emotion and Favourable Outcomes at the Work Place. *Organ. Sci.*, 5, pp. 51 - 71.

Valentine, S., Silver, L., & Twigg, N. (1999). Locus of control, job satisfaction and job complexity: The role of perceived race discrimination. *Psychological Reports*, 84(3), 1267-1273.

Vandekerckhof, P., & Beenders, M. (2021). *Soft skills in ondernemerschap* (1ste editie). Macmillan Publishers.

Zahra, S. A., Randerson, K., & Fayolle, A. (2013). Part I: The evolution and contributions of corporate entrepreneurship research. *Management Journal*, 16(4), 362–381.

Zahra, S. A., & Wright, M. (2011). Entrepreneurship's next act. *The Academy of Management Perspectives*, 25(4), 67–83.

United Nations (2015). Sustainable Development Goals: 17 Goals to transform our world. Available from <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>